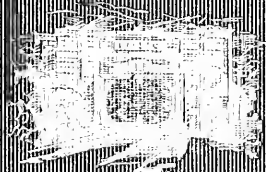


LIFE AND TIMES
OF
ALVAH CROCKER





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LIFE AND TIMES OF
ALVAH CROCKER



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LIFE AND TIMES OF
ALVAH CROCKER

BY
WILLIAM BOND WHEELWRIGHT



PRIVATELY PRINTED
BOSTON, MASSACHUSETTS
MCMXXIII

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By

Douglas Crocker

*2000 copies of this book
were printed in May 1923 on Antique
Biography Book Paper, manufactured especially for this
edition by Crocker, Burbank and Company,
Fitchburg, Mass.*

*Compiled, arranged and printed
by direction of
Walton Advertising & Printing Company
Boston, Mass.*

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Affectionately Dedicated

TO THE MEMORY OF MY FRIEND

ALVAH CROCKER

A GREAT-GRANDSON OF HONORABLE ALVAH CROCKER

INHERITING THE PATRIOTISM AND

FINEST TRAITS OF HIS ANCESTRY

HE LAID DOWN HIS LIFE FOR HIS COUNTRY

AND HER ALLIES IN THE WORLD WAR

W. B. W.

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INTRODUCTION

IT would be difficult to express the purpose of this book in better words than the following taken from a memoir of the late Samuel Appleton: "Of lives of statesmen, poets, artists, literary, military, and professional men of all sorts, we have enough, but of eminent and successful merchants, men who have made commerce the sphere of their extensive activity and usefulness, we have few permanent records . . . yet commerce has had its heroes, its saints, and martyrs,—men who, along its dusty paths, in its busy counting-houses, amid its varied enterprises, have exhibited the noblest qualities of intellect and of heart. . . . To these men, these noble and benevolent merchants, literature, learning, science, humanity in all the instrumentalities that would promote its progress, in all the institutions that would alleviate its sufferings, owes a debt which cannot be too gratefully acknowledged."

Among such men was Alvah Crocker, whose public works—the building of the Fitchburg Railroad, its extension to the West through the Hoosac Tunnel, the establishment of a great paper manufactory, and the founding of Turners Falls—have done so much for Massachusetts. And yet the lesson of his life, the inspiration of his achievement, would soon be lost unless recorded.

His works have been, so far, his only monument; but few remain who know them as his works. Still fewer realize, when they travel over the railroad that he built, how much they owe to one who began in a paper mill at the age of eight, who added to a meagre schooling a fund of knowledge such as few possess, and by sheer force of character overcame the strongest opposition of men and mountains!

It is nearly fifty years since Alvah Crocker died, and just a century since he began his career in Fitchburg; so it seems a fitting time that the obligation to his memory should be paid in a memoir, that shall preserve the record and inspiration of his life for posterity.

The author desires to acknowledge the kindness shown in facilitating the preparation of this book by Charles Fosdick, Esq., Frederic A. Currier, Esq., Edward F. Kimball, Esq., Miss Theresa N. Garfield, Librarian of the Fitchburg Historical Society, Julius H. Tuttle, Esq., Librarian of the Massachusetts Historical Society, and Miss Harriet Swift of the Boston Public Library; and also to acknowledge his indebtedness to the following authori-

ties and records: "The Old Records of the Town of Fitchburg, Massachusetts, 1764-1855," Walter Alonzo Davis, Compiler; Fitchburg Historical Society, Proceedings and Papers Relating to the Town, Vols. 1-4; "History of the Town of Fitchburg," Rufus Campbell Torrey; "The Great Bore: a Souvenir of the Hoosac Tunnel," J. E. Harrison; "Fitchburg Past and Present," Emerson; Address delivered at Fiftieth Anniversary of Tufts College, George Sewall Boutwell; Report on Hoosac Tunnel, December 20, 1867, Benjamin H. Latrobe, Consulting Engineer; Journal House of Representatives of the Commonwealth of Massachusetts, 1836, Vol. 58, 1837, Vol. 59, 1842, Vol. 64, 1843, Vol. 65; Massachusetts Journal of the Senate of the Commonwealth, 1886, Vol. 87; Congressional Globe, 42d Congress, 2d Session, 1871-1872, Part II; House Proceedings 42d Congress, 2d Session, 1872; Congressional Record, 43d Congress, 1st Session, Vol. 111, Vol. 114.



CAPTAIN JOHN CROCKER

LIFE AND TIMES OF ALVAH CROCKER

CHAPTER I

ANCESTRY

MARCH 5, 1845, was a day of great significance to the town of Fitchburg, Massachusetts. The crowd which had collected about its first and newly completed railroad terminal listened impatiently for the shrill whistle of the locomotive, about to herald not alone the arrival of the first train in Fitchburg, but the dawn as well of a new era of prosperity for the community. Many in the gathering had doubtless never seen a train of cars before. Others had made the tedious five-and-one-half-hour trip by stage coach to Lowell, and thence by rail to Boston. It is safe to say that the arrival then, of this pioneer engine from Boston, meant far more to the inhabitants of Fitchburg than the first appearance of an airship in our times. As the little train drew up in "Depot Square," a tall, triumphant man of forty-four descended from the locomotive, to be greeted "by a committee of reception and by citizens." This was none other than Alvah Crocker, to whose clear vision and unremitting energy the Fitchburg Railroad owed its existence; a man destined to become a dominant figure of his time in Northern Massachusetts, and one whom posterity has yet to appreciate for his full worth.

Certainly there was little in the early environment of Alvah Crocker which gave promise of shaping him for a successful business career. Other youths under similar conditions became, at most, skilled artisans. He enjoyed none of the educational advantages which are actually thrust upon a modern boy. He received no consecutive preparatory school training. For him a college education was entirely out of the question. Indeed schools of engineering or graduate departments of business administration were then among the unborn conceptions of university curricula.

As a matter of fact, the training that fell to the youthful Crocker's lot would now actually be prohibited by law, since he began hard manual labor at the age of eight.

We have a brief account of these beginnings in his own words, taken from a speech which he delivered in the House of Representatives in 1872:

"Sixty-two years ago this coming month, I was put into a paper factory at the tender age of eight years. I lived with my mother, without allowance for board, and worked twelve hours daily at twenty-five cents per day. My only remission from labor with the exception of a single winter was six weeks a year, when I was allowed to go to school. In the latter part of the first ten years of my factory life, compensation being somewhat increased, I had sixty dollars a year with my board."

It is in vain that we scan this program for an answer to Alvah Crocker's mental growth. If any one should arise to propose, in our times, such a training as a good preparation for a successful career, he would probably be instantly placed under observation in a psychopathic hospital. We are indeed forced to look elsewhere than to environment for the germs of success with which Crocker was inoculated, and where else can we look than to his heredity?

Captain John Crocker, the great-grandfather of Alvah Crocker, was born in England in 1692, and after coming to this country became a citizen of Newburyport, where he was both a skipper and a ship-owner. In those days the town was famous for its shipbuilding and was one of the most active ports in the colonies. While we have few details of Captain Crocker's career, we know that he was a man to see and grasp opportunity, as evidenced by the fact that in 1748 he obtained permission from the town of Newburyport to erect a ropewalk, which was the first to be built there. He married in 1727 Mary Savage, daughter of Thomas Savage, and had eight children, four of whom were sons. Benjamin, their third child, was born in Boston in 1732 and was reared and lived in Newburyport. Like his father he was interested in shipping, and was a part owner with him of the brig *Ranger* in 1758. Captain John Crocker died in 1763 and is buried beside his wife in St. Ann's Churchyard.

Benjamin was married September 9, 1761, to Sarah Somerby, daughter of Samuel Somerby, at Hampton, a nearby town in New Hampshire, and had five daughters and four sons. The eighth child, Deacon Samuel Crocker (father of Alvah), was born in Newburyport, March 22, 1774, two years before his father's death. Samuel was brought up in Newburyport, where he attended school, afterwards learning the paper-making trade, and removed to Leominster, Massachusetts, in 1796, in his twenty-second year. He took employment with Nichols and Kendall, who had just started the first paper mill there. The site was on the Nashua River slightly below the present property of the George W. Wheelwright Paper

Company. In 1801 the firm built a second mill below the first, but the partnership was dissolved in 1804. Samuel Crocker continued in the employ of Jonas Kendall, who acquired the business. The house in which he lived and reared his family still stands, and is leased as a working-man's house by The Wheelwright Paper Company.

In 1798 Samuel married Comfort Jones, daughter of Samuel and Hannah (Adams) Jones of Medway, Massachusetts, and had the following children: Alvah, born October 14, 1801; Phineas, October 21, 1804; Chandler, November 3, 1806; Thomas, March 13, 1809; Varamus E., February 7, 1812; Samuel Somerby, October 3, 1813; William Plummer, November 25, 1817.

Deacon Samuel Crocker's outstanding characteristic was his religious zeal. He has been described as "stern, uncompromising and conscientious." At the age of forty-three (the same age at which his son was interested in railroad construction), Deacon Crocker while reading the Bible at family worship came to one of the accounts of baptism in the New Testament. His wife interrupted him with, "There, husband, the Baptists are right!" This led to careful consideration of the subject and a change in belief. He walked to Harvard, applied for admission to the Baptist Church of that town, and was received after short delay. This led to further conversions in Leominster, and the founding there of the Baptist Church, with which Deacon Samuel and his son Deacon Samuel S. Crocker were so long identified. The elder Crocker and his wife were both active and influential in the church. He was an evangelist in disposition, and held prayer meetings and conference meetings in his own house and elsewhere, and preached the gospel frequently.

It is said that the only books in his home besides the Bible were "Edwards on Religious Affection," "Lives of Watts and Doddridge," "King Philip's Indian Wars," and "The Westminster Assemblies Lesser Catechism." Mrs. Crocker was a direct descendant in the sixth generation from Henry Adams of Braintree, the forefather of most of the old American families of this surname. Thus the Puritan traditions were naturally paramount in the family life. From the early age at which the children went to work it is evident that the family's accumulation of this world's goods was small.

In Lewis's "History of Worcester County," it is stated "Mrs. Crocker was a descendant of the celebrated Adams family and inherited all its self-reliance and independence of character. Nobly struggling under adverse circumstances, and unwilling to receive assistance not absolutely necessary, she aimed to nurture the children in habits of honest industry and to accustom them to exertion, not only from necessity, but also from choice.

Such an education as they received proved to be a greater instrument of temporal success than large fortunes in the hands of numberless children of luxury and ease." The boys were sent out to work for farmers during the summer months in their childhood, and in this way the insufficient income of the father was made to cover their necessities, while early habits of industry and thrift were inculcated. If as some one has put it "genius is the ability to work hard and long and well," we have perhaps discovered the secret of the genius of Alvah Crocker. Inheriting the traditional New England traits from hardy self-reliant ancestors, his natural physical exuberance being early harnessed by the necessity of work, he started life under no handicaps of ease and with no false conceptions of its meaning. He knew full well the meaning of the words "In the sweat of thy face shalt thou eat bread."

The territory of the United States at the time of Alvah Crocker's birth in 1801 comprised only that portion east of the Mississippi River, with the exception of Florida and a small portion of what is now the State of Louisiana. In all, there were then seventeen organized States with a total population of five and a third million, one-fifth of whom were slaves.

The country was on the eve of enormous expansion through the Louisiana Purchase of 1803, and during Crocker's lifetime our sovereignty came to embrace all present possessions with the exception of Hawaii, Samoa and the insular acquisitions which were incident to the Spanish War. Virginia held first place in population, followed by Pennsylvania, New York and Massachusetts. Nine-tenths of the population resided east of the Alleghany Mountains.

Industrially the dawn of a new era was close at hand. Transportation, while dependent still upon sailing vessels and stage coaches, had witnessed the first attempts of John Fitch, James Ramsey and Oliver Evans to harness the power of steam. The paper machine in its primitive form had been invented by Louis Robert at Essonnes, France, in 1799 and was first put to practical use in England through the engineering skill of Bryan Donkin and the financial assistance of Henry and Sealey Fourdrinier in 1804. Manufacturers dependent solely on water power were cropping up here and there, but the pursuits of the country were mainly agricultural and marine.

The nation had scarcely recovered from the birth pains consequent upon the turmoil of Revolution, and Thomas Jefferson had taken the oath of office as third President of the Union.

Probably it was as well for the Crocker family that Deacon Samuel had turned his back on Newburyport, so soon to experience the blight

of the Embargo Act of 1807, which while ruining its shipping industry diverted the attention of New England to manufacturing. Happy also the choice of his trade as paper maker proved to be for the son, who at the early age of eight followed in his father's footsteps. In the first quarter of the century the industry was still conducted largely by hand, but the principles learned through long years of toil enabled the younger Crocker with his active mind and energetic enterprise to meet successfully every industrial change, while his disposition inclined him to welcome every new invention of which his practical experience was quick to recognize the merit.

The narrow limits of his father's library were fortunately extended through the kindness of their employer, Israel Nichols, who placed his own library, a good one for those times, at the disposal of his inquiring apprentice. Alvah Crocker was determined to wring an education from this barren soil, and though he generally received but eight weeks' schooling yearly, he managed by night study to keep along with the best of his class. At the age of sixteen, having accumulated sixty dollars, he entered Groton Academy, and remained as long as this limited appropriation lasted. He is said to have cherished hopes of attending Harvard College, but the liberal tendencies of this institution had offended the orthodox Deacon Crocker, and whether this was a decisive factor in the abandonment of his hopes or not is a matter of conjecture.

The family traditions concerning the boyhood of Alvah are fragmentary, but by piecing them together we may safely infer that he was vigorous, self-reliant and wide awake. Two letters from a Groton schoolmate, I. Burrage by name, would also indicate that he shared with his companion a fondness for literature and an appreciation of humor.

The first was written from Groton in 1819; the second, dated May 26, 1824, from Brown University, shows that the friendship continued after the boys had been parted by circumstances, while their preservation indicates a warm regard for this youthful tie.

Both letters are sufficiently lively and revealing to warrant their inclusion in this narrative.

GROTON, May 8, 1819.

Friend:

Not with the sublime effusions of an Ossian, nor the splendid strains of a Pope, do I now address you; a far inferior style must be the choice of one, whose head is as uncultivated, as yonder sand-hill, & who possesses such an intolerably poor nervous system, that with all his powers he is scarcely able, even in a north or north-west breeze, to keep it within bounds, but when Notus arises Hue miserande

puer, away fly all restraints, down drop all reason, sense & abilities, and left deeply wallowing, like Bunyan's Pilgrim, in the Slough of Despond. Under the dominion of the above maladies, you must be sensible, friend, that it would be next to impossibility for me to write anything either instructing or amusing. But as you have the history of my Uncle Toby's famous siege, you must have learnt that, when we cannot do one way, another must be tried, thus making use of different expedients; now as this happened to pop into my head just at beginning my epistle, I concluded that if by reason of my several debilities, I were debarred from the use of great author's style, little ones must do; so Trim, when there was no lead to make mortars, made the tops of a pair of jack-boots answer his purpose. Agreeably with the foregoing resolution, I determined to begin with the plain John Trot style of "Yours of the 14th inst. came safely to hand," but alas! wretched man how liable thou art to be disappointed! Just as my fancy was wound up to the highest pitch, & I had begun to consider myself something above the common level, down came the heart-soothing hopes, with a most dreadful crash, occasioned merely by the officious intrusion of the following question, put by my interlectual monitor "have you received a letter," my answer was in the negative that I never expected to have any. "Then (replies my monitor) it would be the most consummate folly in you to make such a beginning." Folly thought I, that is a lucky hit, I am all folly. However, something must be done soon and at last, I thought it best to write a budget. But in writing the budget, the exordium and peroration were on the point of making up the whole, for this violation of rule your forgiveness.

I will now inform you that my health has been good, the school is much the same, about thirty-five scholars attend, among whom are Cutter, Hunt, Brown, Wilder our former schoolmates, the Preceptor is as usual kind and endearing, yet he has faults, & who has not? He does not drill us enough; drilling especially to such dull minds as mine, is very essential. As to my progress I scarcely wish to tell any concerning it. I have read 79 lines in Virgil in three days and a half.

Please to receive this from your affectionate friend,

I. BURRAGE.

Mr. ALVAH CROCKER

Leominster

P. S. Our school closes on Tuesday the 18th of this month in the afternoon please to inform father so that he may send after me if he pleases & if you can make it convenient please to come. I like with you to have a discourse on the road. Prove that by a letter.

BROWN UNIVERSITY, May 26, 1824.

Friend Crocker:

The old proverb "Out of sight out of mind" is I presume your favorite, & you surely deserve no small praise for due observance of it. Two or three months have

passed tediously away & no epistle from you has yet greeted my eyes. I can brook the disappointment no longer. My pen is in hand, & this imperfect communication will soon wend its way to your residence to request, that if the address with which this section commences, is no longer agreeable it may be lost in the yawning gulph of Oblivion.

Having now given vent to my passion, I dismount from my Bucephalus and plod along with you in a friendly manner, & relate everything I can think of, that will be interesting. It is vacation with us at present & as there are several students like myself who are too poor & too remote from the paternal roof to render it convenient to visit their friends the short time which intervenes between the close of the last term & the commencement of the next, we have obtained leave to room in college. We keep bachelors' hall at present & begin to taste the soldier's life in all respects as it regards subsistence,—one sweeps, another cooks and the third is market-man, the market is near, & affords all the variety of provision we wish at a cheap rate. We make ourselves very comfortable at 75¢ per week, in the meantime three libraries furnish all the intellectual gratifications that heart can ask, or imagination conceive, so that contentment only is wanting to insure us a tolerable portion of happiness allotted to mortal man.

Such is a picture of the present, would that the past and future might present as pleasant a prospect. But alas! I shall not attempt to conceal from you that our college has been in a very disordered state, the causes of which I will proceed to enumerate. On my return to Providence, immediately after I last saw you, I learned that Dr. Adams, our Professor of Mathematics & Natural Philosophy has resigned. He had been appointed President of a college in Charleston, S. Carolina, where his salary would be triple what it was here; he, however, informed some persons in town, that he should not have resigned had he received proper treatment from the other officers, & signified that he should prefer a written accusation in a short time. Our fiery spirits took the hint upon this information, & having assembled in a considerable body about 12 o'clock P.M. they assaulted the houses of the President & Professor Park, broke the windows & shouting "Down with old Messer & Park and up with Adams." The authors of this disturbance could not be discovered; as is generally the case. Great irregularity succeeded in all departments, & to cap the climax, the Junior Class shut the door against their professor which amounted to open rebellion, this outrage passed with impunity & one recitation was omitted. Certain of the trustees now persuaded the class to get up a memorial, & present to the Fellows specifying that our recitations were omitted, & that no order was observed, this has been done, & a meeting of the Corporation will be held in twenty days, when it is expected the officers will be dismissed, or that several students will be rusticated & indeed four are already. Those who wish for the dismission of the officers, rely much on the difference of the religious tenets prevailing among the corporation, which I am sorry to say will have too much influence.

My health is good, my spirits have recovered in some degree from the shock

occasioned by my domestic affliction which still an awful calamity seems, O!
may I be taught more composure & learn to

“Redeem mine hours—the space is brief
While in my glass the sand grains shiver
And measureless my joy or grief,
When time & I shall part forever.”

From your friend, I. BURRAGE, Providence.

Mr. A. CROCKER:

If we stop to consider that the letter from Groton was written by a boy then in his seventeenth or eighteenth year to a contemporary, we may fairly conclude that their maturity compares at least favorably with boys of today, and while their phraseology is inclined to be stilted, yet the display of grammar, vocabulary and the literary allusions reflect creditably on the teaching of Groton Academy.

One incident remains to be told of Alvah Crocker's youth which reveals his characteristic persistency. When eighteen years of age he went to Newburyport to visit some relatives. While there he was told that there was a portrait of Captain John Crocker somewhere in town that had been left by a cousin who had removed with his family to Vermont. In loading up his goods he could find no place for the portrait, the frame being of an unusual size. Mr. Crocker was told if he could find it, he could have it for his own, as it was many years since the cousin had left and nothing had been heard from the family since. The youth with his natural ardor and earnestness of purpose began the search and called at every house on Main Street asking if the portrait of Captain John Crocker had been left there. He finally arrived at the residence of Mrs. Bass, widow of Bishop Bass. She looked carefully and critically at the young man and said in reply to his inquiry for the portrait, “Yes, and you look enough like the portrait to be identified as a descendant of the Captain.” Mr. Crocker carried it away and left it at the house of his relative where he was visiting, with the understanding that whenever he had a home of his own it should be sent to him. The painting is said to be by Copley or one of his pupils. Eventually Mr. Crocker obtained this picture, which later passed from his son into the possession of his grandson, the present owner.

In 1820, the year following the incident of finding the portrait, Alvah Crocker, definitely having abandoned all hopes of attending college, left his home in Leominster and went to work in a paper mill at Franklin, New Hampshire, where he remained about two years. His return to Fitchburg, Massachusetts, in 1823 marks the beginning of another chapter in his life.



A VIEW OF OLD FITCHBURG

From an early drawing of the upper Common.



A VIEW OF OLD FITCHBURG

A later photograph of the centre taken from the same point as above.

CHAPTER II EARLY BUSINESS EXPERIENCE

1823-1836

IT was in the employ of General Leonard Burbank, the first paper-maker in Fitchburg that Alvah Crocker went to work. Though young in years he was now old in experience, and his ambitions soon led him to a momentous decision. In 1826 he managed to borrow sufficient capital to acquire a mill site in West Fitchburg and start manufacturing paper by hand, on his own account. The early years were beset with difficulties. Not only was he hampered by the location of his mill, which was inaccessible, since the river road had not yet been built, but the time was at hand when machines were beginning to displace the slow hand process of paper-making, and in spite of the debt of \$12,000 which impended from his original purchase he felt forced, in order to meet competition, to raise \$10,000 additional for new machinery.

Luck itself seemed to be against him, as a freshet inopportunately caused serious and costly damage to his mill at this juncture. Being hampered by the lack of sufficient working capital, he procured his raw materials and chemicals through a Boston commission house, which accepted his finished product in return. Now on top of all his other trouble this bank informed him that the balance against him was \$4,000, and, although not due, they unscrupulously demanded payment. No help could be expected from his fellow-townsmen, who in their puritanical exclusiveness regarded Crocker's enterprises with misgivings, fearing that the influx of workingmen might lower the moral standards of the town. There was but one way out of the difficulty, which was to open accounts with yearly settlements only, for what stock he wanted throughout the country, and to sell his paper direct. Bravely shouldering these additional burdens he actually worked both night and day, for he often drove his own team by night loaded with paper to Boston. It is easy to imagine that during these long tedious rides his mind began to work over the transportation problems that later claimed so much of his attention.

Thus he struggled on under a heavy load of debt, gradually weathering the difficult years of the "thirties." An incident which gives a very graphic picture of his condition, mingling the pathetic with the ridiculous, was as follows:

"There were then no Banks in Fitchburg and commission houses controlled business at that period in Boston. It being impossible for him to continue with his commission house, and without capital, he found himself one morning in Boston with the notes of two well-known firms, for the paper he had teamed forty-seven miles from Fitchburg during the night. He looked around for some Bank to get the money for his notes. Verdant, weary and supposing the business of a Bank was to discount notes, he stopped his team before the 'New England.' Marching in, he proceeded at once to the cashier's desk, and pulling out his promises to pay from his pocket, demanded the money. The cashier informed him with a graceful bow 'they did not discount.' With a voice that might have been heard to the bottom of the street, and looking the cashier in the eye, Mr. Crocker exclaimed: 'I have not a cent to go home with, sir! I have workmen and debts to pay. Must have it. Shall fail, sir. I must and will have it.' His manner, his old 'Tom and Jerry' suit coupled with his strange singing voice was too much for the cashier, tellers and clerks, who all joined in a loud roar of laughter. While the applicant was trying to consider what it might mean, still keeping his eye on the cashier, the noise brought the President of the Bank from his room. Illy suppressing his own smiles, he asked him his name and where he lived, and finally repeated the inquiry if he did not know that banks did not then discount. 'How should I know that?' sang a stentorian voice, Mr. Crocker still maintaining his attitude and feeling that they were still trying to impose on him and that even then he had some inherent, inalienable right there, while his highwayman sort of bearing was dilemma of not ordinary kind. Literally to get rid of their ignorant and persistent customer, as his paper was good, the President told him if he would get on his box and go right home, telling no one where he got his money, the Cashier might take his paper."

These difficult experiences never seemed to embitter Alvah Crocker; indeed they more likely quickened his sympathies. At a much later date it happened that a young manufacturer was seeking to borrow some money, and the bank of which Mr. Crocker was a director was loath to make the loan. Mr. Crocker, having confidence in the applicant, arose at the meeting and declared: "This is a worthy man and he needs the money. If you refuse to discount his note, I will do so myself and withdraw the money from this bank to do it." Needless to add, the note was discounted.

Being now more firmly established with a business of his own, the time had come when it was possible for Mr. Crocker to indulge his natural longing for a home life, and on August 14, 1829, he was married to Abigail

Fox of Jaffrey, New Hampshire. She died in Fitchburg, August 21, 1848, in her thirty-seventh year, leaving five children,—Harriet Newell, born December 14, 1830, married June 2, 1858, William B. Lyon of Gardner; Charles Thomas, born March 2, 1833; Mary Eloise, born 1837, married January 28, 1858, William Roscoe Lyon of Haverstraw, N.Y.; Margaret B., born November 15, 1841, died in her tenth year; Louisa T., born February 8, 1847, lived but six years.

In spite of the engrossing demands of his business Mr. Crocker always found time to be of some use to his community. Thus we find him in 1831 acting as chorister for the Calvinistic Congregational Church "at the munificent salary of \$13.00 a year" as well as having become a teacher of the "annual singing school."

His first public office was as "hog reeve" in 1830. In 1831 he was a "tithingman," and one of the last to hold this ancient title. He became a "fireward" in 1835 and held the position until the organization of a fire department in 1851, continuing his connection for a number of years as one of its engineers. He first served the town as moderator in 1838, was on the school committee in 1839 and 1840, and was in the militia company in 1843.

In 1834 the town of Fitchburg authorized Mr. Crocker to get a new road farther up the Nashua Valley to the Westminster line. The landholders being opposed to sell a right of way, he purchased the entire valley himself and gave the land for the road. Subsequently his mills were all located in this valley, and his wise generosity was amply justified.

By this time he had worked out of his trouble into a growing measure of prosperity and turned his attention to public affairs, being elected in 1836 as a Representative to the General Court of Massachusetts. In R. C. Torrey's "History of Fitchburg," published at this time, we find the following comments of interest:

"The town has daily communication by means of mail stages with Boston, Keene and Lowell. Stages also depart for Springfield and Worcester, and return alternate days. Accommodation stages also pass daily between this place and Boston.

"A. Crocker & Co.'s paper mill is located on the Nashua at a distance one and a half miles west the village. A good head of water is secured here. At this establishment paper of various kinds, principally however printing and writing paper, is manufactured to a considerable extent.

"Crocker and Gardner's Paper Mill, generally known as the Burbank paper mill, is 80 rods farther down stream (from the Stone mill which was situated in that part of the village known as the 'Old City'). A good head

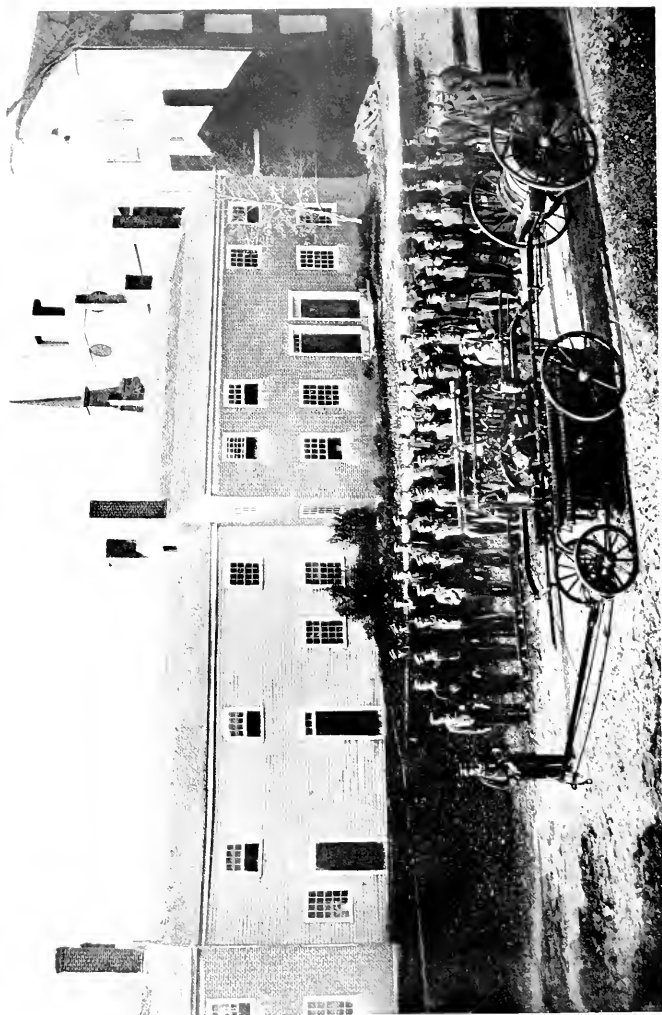
of water is obtained here. The mill is altogether used for the manufacture of wrapping paper. Two engines are kept in almost constant motion night and day, to furnish pulp sufficient to supply one machine. Both of the paper mills in this town have, in connection with their machines, a late improved drying cylinder (generally 4 to 6 feet in diameter) which completely dries it. At the same time it is cut into pieces of convenient size, ready to be folded into reams.

"The Burbank paper mill and dam (the third built across the Nashua) were built in the year 1804 by Thomas French. The mill went into operation the following year. A. Crocker & Co.'s mill was built in 1826 and the dam made in the previous autumn. The place was exceedingly rough and difficult of access. The dam cost \$1,500."

It is impossible to detach a life from its environment and fully comprehend its accomplishments or significance. Let us swiftly review the events that were making their impressions on the growing man and had the most bearing upon his career.

Patriotism was a marked characteristic of Alvah Crocker, and during the impressionable years of boyhood his spirit must have been deeply stirred by the war of 1812. Such inspiring events as the Battle of Plattsburg and the naval duel between the Constitution and the Guerrière were firing the minds of America with a new pride of country. Referring to the latter, Henry Adams says, "A small affair it might appear among the world's battles, it took but half an hour, but in that one half hour the United States of America rose to the rank of a first-class power." But we need not dwell upon the varying vicissitudes of that two years' war which consolidated our country, and made for us a new and secure place among the nations. Its most significant outcome was the dawn of our national consciousness. In the fifty-seven years of peace preceding the Civil War, the country made enormous industrial strides. For the purpose of this narrative we may pass over the more familiar facts of national history to stress the commercial growth, of which Alvah Crocker's career was part and parcel. We may well quote a few passages from Elson's "History of the United States":

"Nothing impressed the student of the history of this period more than the progress in the invention of machinery and in the means of travel. . . . The first important advance in this line came through the general use of the steamboat. By the time of Monroe's second election (1823) the Western rivers, as well as those of the East, were covered with steam craft. . . . So it was also along the seacoast. All the leading ports were now connected by lines of steam vessels and a journey from one



THE FITCHBURG FIRE DEPARTMENT ABOUT 1851

Alvah Crocker was actively interested in this department for over sixteen years.

coast city to another became a pleasure trip, and consumed far less time than in the old days of the stage coach."

The growth of the inland towns, such as Fitchburg, not situated on navigable waters naturally languished, and few were more alive to the handicap than Alvah Crocker, who well knew from personal hardship the drawbacks of such a condition, as well as the tax that it added to the cost of merchandise.

"The vast network of railroads that now covers the United States had its beginning at the time we are treating. John Stevenson, an inventive genius of the highest order, who had done almost, if not fully as much as Robert Fulton for the steamboat, was now the chief advocate of steam railways. A road was soon built from Philadelphia to the Susquehanna but the cars first used were drawn by horses. . . . The first steam locomotive was brought from England in 1829—but it proved a failure. In 1831, however, a locomotive was successfully used in South Carolina and within a few years others were in operation in various parts of the country. But for years after this beginning many of the cars, even on the steam roads, were still drawn by horses.

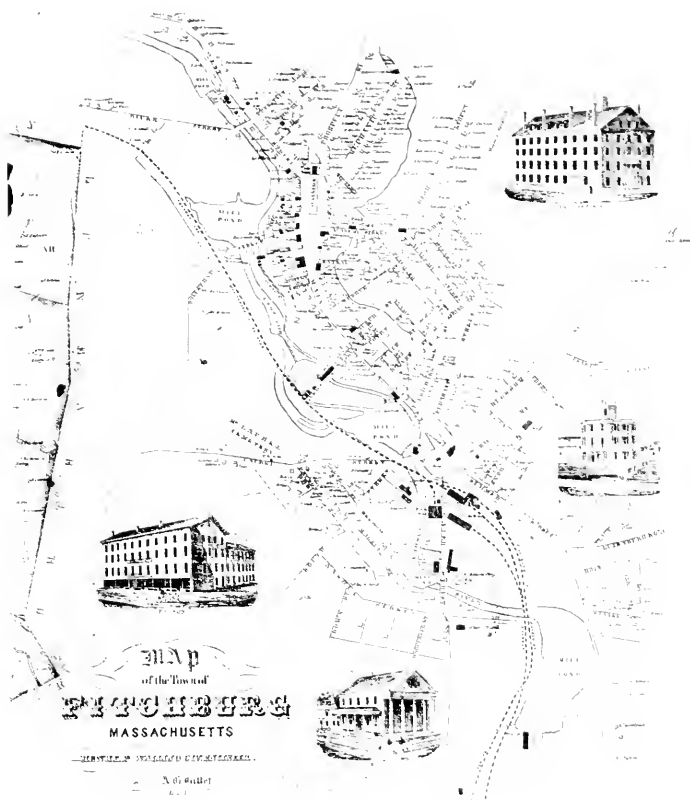
"The roads were owned by the state and the cars and engines by individuals or corporations. Any one owning a car or an engine had the use of the road. . . . Eventually the railroads passed into the hands of private corporations, and horses were everywhere supplemented by the steam engine."

Railroading was scarcely more than an established practical feat at the time that Alvah Crocker entered the Massachusetts House of Representatives and began his public advocacy of railroad communication for Fitchburg. In this cause he was more than abreast of the times as proved by the extraordinary opposition which he encountered in his far-seeing projects. Fitchburg, itself, according to R. C. Torrey, had a population in 1830 of twenty-six to twenty-seven hundred. This author states: "From the School returns furnished to the Legislature in 1835 I gather the following statements. The number of children 4 to 16 years of age, is males, 271, females, 289. Average attendance 416. Children not attending common schools any portion—15 males, 26 females. Aggregate time of keeping school in all the districts in winter 28 months, 21 days. Summer 28 m. 7 d. Number of male instructors 11, female do. 14. Average wages per month exclusive of board, winter \$16.67, summer \$4.30. Amount of money raised by tax for supporting common schools \$1,237.50. Estimated amount paid for tuition at the Academy and private schools \$705.00."

Crocker's vision was not bounded by the small limits of his native environment; his self-educated mind looked far beyond and took in the national problems as well. Interesting evidence of this forward-looking habit is to be found in a letter of September 16, 1842, signed "C," but safely attributable to Mr. Crocker, who was just beginning his activities in promoting the Fitchburg railway, concerning which the letter mainly was devoted. To say the least, it is so thoroughly characteristic of the man as to warrant partial transcription. "Mr. Editor—I am aware that I am somewhat lengthy, but our present legislative session reminds me of the political bearing of this and enterprises of a similar character, a word upon which and I close. New England has heretofore sustained a commanding influence in this great republic. Her district schools, her colleges of learning, and her exalted moral principles have diffused abroad their rich and varied blessings. To promote and increase their influence we must secure to ourselves every possible means of sustaining a dense population by industry and the arts, and should regard our physical as well as intellectual energies. Let these grow tame and dead and the very smallness of our territory will sink us into insignificance. Let New England influences cease upon this nation, and the abstract vagaries of southern nullification, the pestilential miasma of corrupting, licentious slavery will ring the death knell of a structure of human government, beautiful for its symmetry and hallowed for its sacred regard for the unfettered, untrammelled freedom of mankind."

At the age of forty-one, almost twenty years before our great Civil War, Crocker came close in these words to expressing the moral aspects of the cause to which he later gave both wealth and unstinted support.

Of Mr. Crocker's record in the House of Representatives we have no extensive information aside from the record of his votes. Thirty-seven times he was found in agreement with the action of the House, fourteen times in opposition, and on forty-six measures he was not recorded. His terms covered the years of 1837, 1838, 1842 and 1843. The striking accomplishments of these years centre about his activities in the upbuilding of the Fitchburg Railroad.



MAP OF FITCHBURG, 1851

From original surveys under the direction of Henry F. Walling, Civil Engineer,
and John Hanson, Assistant Engineer. Published by
A. G. Gillet in 1851. Original map scale 20 rods to an inch.

CHAPTER III

THE FITCHBURG RAILROAD

THE first agitation for railroad connections between Fitchburg and Boston occurred in 1837 at a meeting held in Fitchburg. The plan contemplated a route *via* Framingham to connect at that point with the Boston and Worcester Railway, but interest flagged and the proposition was for a long time abandoned. In the mean time a group of citizens, consisting of Alvah Crocker, Horace Newton, Samuel Willis and Abial J. Towne, held a conference which is described as follows by W. S. Wilder, who was at that time editor of the *Fitchburg Sentinel*.

Referring to a notice which was issued to call a "Railroad Meeting" for November 19, 1841, he says: "This notice, written by William B. Towne, originated thus: One evening in our reading room, present Alvah Crocker, Horace Newton, Samuel Willis, Abial J. Towne, the conversation was on the project of a county road being laid out, passing through the south part of this town, from Winchendon to Leominster. It was proposed to push for a railroad, directly, to avoid the diversion of travel from Fitchburg centre. Newton and Crocker expressed no faith in the project. Crocker referred to the failure in attempting to get a road to Framingham, and was discouraged. I told him if he would write a notice for a meeting, I would publish it. He refused, and so did Newton. No one present had confidence in the success of a railroad being built, or at least none was expressed, and the most said in favor of calling the meeting was that it might lead to a prevention of laying out the proposed southern road by the commissioners. It was said if a railroad was ever built from Fitchburg to Boston the southern road would be useless, and would cost the town several thousand dollars. Newton (then one of the Selectmen) was very anxious to avoid this."

The meeting was called to order by Francis Perkins with Jacob Haskell as Secretary, and resulted in the selection of a "Committee of Correspondence and Enquiry" consisting of Alvah Crocker, Samuel Willis, John T. Farwell, Alpheus Kimball and Abial J. Towne. The interesting account of the meeting, as recorded in the *Fitchburg Sentinel*, is as follows:

"From the apparent interest which many of our citizens have taken in relation to this subject, and the known feasibility of a route direct to the city, we are led to believe that the day is not far distant when this new

and desirable measure shall have been completed. The only obstacles in the way, of any importance, calculated to defeat the object, are the strong prejudices existing in the minds of many against all railroads, and particularly among the agriculturalists, who fear that a reduction of price must necessarily take place in the usual products of the farm wherever this mode of transportation is introduced; the opposition which will undoubtedly be experienced from the two corporations, one upon each side of the contemplated route, now in successful operation; and the amount of stock required to be taken up. To these may be added the opinions entertained by many who are fully aware of the dangerous tendencies of increasing the wealth and power of privileged corporations. So far as the farming interests are concerned, any considerable opposition from this source must, we think, rise from mistaken views. It cannot be reasonably supposed that the various kinds of produce from any farm can long command a higher price in Fitchburg or its immediate vicinity than they will in Boston, Worcester or Lowell, and it must be obvious to all that the convenience of a railroad communication will open a market for many kinds of produce which are now unprofitable, only for the want of a cheap, easy and quick transportation to the city. Should any opposition arise from the present established corporations, we hope that a sense of justice and equal rights may so far prevail among them as to neutralize its effects. And in order to secure the necessary amount of stock, it only needs to be shown, as we believe it can be shown in a demonstration, that investments in this undertaking can be made perfectly safe, and highly profitable. As to the dangers of privileged corporations, so long as they exist, and must necessarily continue to exist in this country, the greater danger is to be apprehended from a small number with superior advantage, rather than many, equally accessible, and judiciously established throughout the country. We shall therefore go for a railroad from Fitchburg to Boston. And we venture to predict that if our citizens are not blind to their interests, they will unite in the effort now to be made in securing the privileges of a railroad; and if this is not done, if the object is not in some way accomplished, ere many years shall roll round the wheel of time, the car wheels of other routes will roll away with the interests of our citizens, in despite of the present thriving appearance of our village, its excellent water privileges, its ample resources of business and its inexhaustible Rollstone."

The movement was now launched in earnest, and, at an adjourned meeting held December 20, reports of those who had visited various interested towns were heard, and the committee was instructed to call a convention of delegates from these towns, which it did in the following words:



FITCHBURG IN 1856
From Samuel Hale's residence.

In pursuance of this trust we have appointed Tuesday, the eleventh day of January, 1842, at nine o'clock A.M. at the Massasoit House in Waltham, when and where you are cordially invited to attend; and also to take such measures as shall insure your town full representation at said meeting. Some of the topics for discussion will be

1st. Shall this large and populous section of country now reaping no benefit from steam communication, but positive injury, unite to restore our business and travel to its accustomed channels?

2d. If the convention shall accept the affirmative of this question, shall such measures be taken as will carry the object into speedy effect?

3d. Shall we unite with the Fresh Pond railroad, so called, now built within about four miles of Waltham, and if so, take such action as will secure its immediate accomplishment?

Delegates are earnestly requested to come prepared to state, as near as possible, the number of passengers and the amount of tonnage both from and to their respective towns, from and to the city of Boston, the probable cost per annum for these two items to each town, the natural resources (water power, etc.) for increase of business by increased facilities, together with such statistics as will not only add a deep and abiding interest to the occasion, but form an invaluable material for future use.

We have the honor to be, very respectfully, your obedient servants,

A. CROCKER
A. J. TOWNE
SAMUEL WILLIS
A. KIMBALL
J. T. FARWELL.

In addition to the signers of this note, the following delegates were chosen to represent the town of Fitchburg—Francis Perkins, David Bou-telle, Isaiah Putnam, Porter Piper, Nathaniel Wood, C. Marshall and Jacob Haskell.

To a paper entitled "The Early Days of Railroads in Fitchburg," by Henry A. Willis, read before the Fitchburg Historical Society in April, 1892, we are indebted for the following narrative of the Fitchburg Railroad:

"The convention was held according to the notice, January 11th, 1842. About one hundred delegates were present from the various towns along the proposed route. Mr. John Rogers of Concord presided, with three vice-presidents and two secretaries. Mr. Crocker addressed the meeting, alluding to the primary measures adopted at Fitchburg resulting in the calling of the convention, and calling attention to the feasibility and

advantages of an independent route, instead of a route from Fitchburg to connect with the Worcester or Lowell road as had been contemplated in the project of some four or five years before. Dr. Abraham T. Lowe of Boston, at that time a director in the Western railroad, and who has lately died at the age of ninety-three, addressed the convention at considerable length, giving much encouragement by his remarks. Gen. Dana of Charlestown and others addressed the convention with good effect. The practical results of the convention were the choosing of committees, as follows:

"A Committee on Survey, composed of Samuel M. Felton of Charlestown, Samuel Willis of Fitchburg, W. E. Faulkner of Acton, Israel Longley of Shirley, and thirteen others from the various towns between Fitchburg and Boston.

"A Committee on Statistics, composed of Alvah Crocker of Fitchburg, Salma Hale of Keene, Ebenezer Hobbs of Waltham, Davis Loring of Concord and Joseph Davis of Templeton.

"Also a committee to confer with the directors of the Charlestown branch, Fresh Pond railroad, and to petition the legislature for a charter, if they thought best, as follows: Alvah Crocker of Fitchburg, N. F. Cunningham of Boston, F. R. Gourgas of Concord, Abel Phelps of Boston. The last committee was also empowered to propose resolutions and publish the proceedings of the convention.

"This committee subsequently reported the following resolutions, which are given in full, as they are rather unique in composition and show great earnestness of purpose:

"*Resolved*, That the success which has hitherto crowned railroad enterprise in every section of this Commonwealth now sheds its beacon light upon us, and stimulates us to prompt and efficient action to obtain the same glorious results for ourselves that others now enjoy.

"*Resolved*, That while we regard with the highest satisfaction the increasing wealth and prosperity incident upon the establishment of our great railroad thoroughfares in New England, both to our own city of Boston and those sections of country through which they pass, while our lively sympathies and willing aid have been afforded toward the completion of those noble works, common justice would seem to indicate that others, who now enjoy such additional facilities, should also accord to us their sympathy and aid.

"*Resolved*, That while we are determined (should a charter be obtained) to build a road inferior to none in durability and care in the construction, an imperious sense of duty demands a rigid economy; and in consequence of the extreme feasibility of the route, the public have a right to ask and

expect a moderate tariff, not only for passengers and tonnage, but also for branch roads which may enter upon our track.

"Resolved, That while the Western railroad must ever be the great outlet to the fertile and almost inexhaustless West; while the Lowell and Concord road now commands and must ever command an immense business on the east side of the Monadnock, Kearsarge, and Franconia Ridge, the God of Nature has marked and established, by metes and bounds not to be misunderstood, a direct river route, not to Keene and Brattleboro, but following the upper Connecticut and other streams to Whitehall and Montreal.

"Resolved, That this route, almost precisely intermediate between Lowell and Worcester roads, is the consummation of the routes essentially necessary for the northern country and Boston—the direct route, when finished, for the travel from our Atlantic steamers to Montreal; and that this first section to Fitchburg is a germ which will ultimate in such fruition.

"These committees got immediately to work, and I also find that stock subscriptions were made at once, in advance of any charter being authorized. At Concord, a rousing meeting was held February 5, 1842, and a committee chosen to procure stock, who reported a few days later a subscription of \$48,000, all from Concord citizens. On the 12th and 14th of February meetings were held in Fitchburg and Waltham, and stock subscription opened. At the latter place liberal subscriptions were made; but I conclude from a manuscript letter of February 11, 1842, now in my possession, from Samuel Willis to Alvah Crocker, then a member of the legislature, that there was much apathy existing here on the subject, owing, the letter states, to the fact of the uncertainty as to where the railroad was to terminate. The sectional feeling between 'Old City' and 'Up Town' was very pronounced in those days, as we shall see further on. The letter was an urgent appeal to Mr. Crocker to leave his legislative duties and come up and address the people, which he probably did. On the 21st of February, 1842, a public meeting was held at Charlestown, at which it was resolved that 'We hail with joy the prospect of bringing to this town the terminus of the contemplated railroad from Fitchburg,' and a committee of nine was chosen to solicit subscriptions to the stock.

"On the 2d of March, 1842, the bill for the incorporation of the Fitchburg Railroad Company was passed to be engrossed. After this date the work of the committees was very vigorously pushed, and reports were made at a meeting held at the Fitchburg Hotel, June 27, 1842, at which meeting it was voted that the persons named in the act of incorporation be requested to call a meeting of the subscribers to the stock, to be held at

Concord on July 13, 1842, 'to determine on the acceptance of the act of incorporation, to elect directors, adopt by-laws, etc.' This meeting was accordingly called by A. Crocker and N. F. Cunningham.

"The meeting at Concord was held pursuant to notice, and was presided over by Hon. Samuel Hoar of Concord. The 'Act' was accepted, by-laws adopted, and the following were unanimously elected as the first Board of Directors: Alvah Crocker of Fitchburg, Samuel Willis of Fitchburg, David Wilder of Leominster, W. E. Faulkner of Acton, Israel Longley of Shirley, David Loring of Concord, Horatio Adams of Waltham, Nathan Pratt of Charlestown, Benjamin Thompson of Waltham, N. F. Cunningham, Luke Carter and E. H. Derby of Boston. It is recorded that gentlemen were present from nearly every town along the route, and that the utmost harmony and good feeling prevailed.

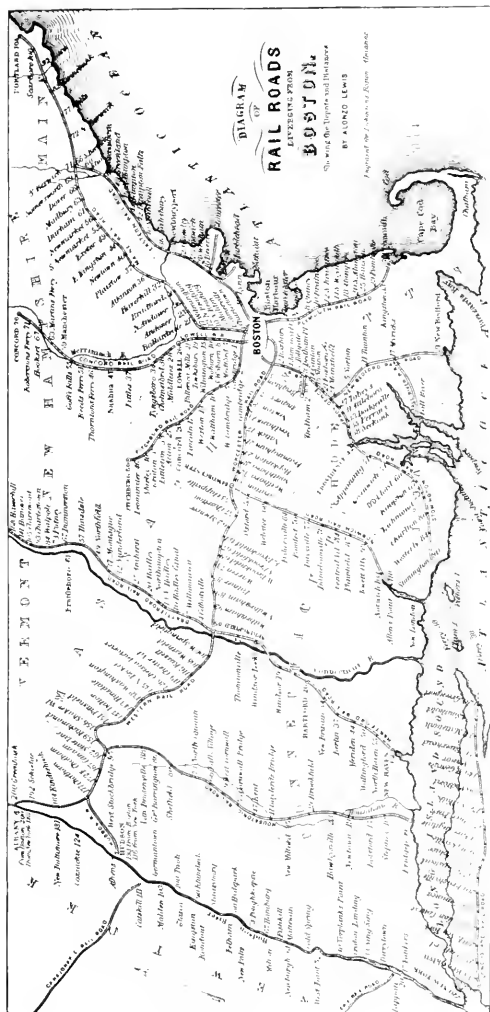
"From this time on during the year 1842, I find that interest was not allowed to lag. Meetings were held and the subscription list pushed. The local papers along the route teemed with editorials in favor of the project. There appeared to be no public opposition.

"Mr. Crocker was, indeed, indefatigable. We find him addressing meetings in Boston, Charlestown, Greenfield, Keene and Brattleboro, and he seemed to be the foremost man in the undertaking. He had also a good number of coadjutors who were scouring the country for subscriptions. Among these may be prominently mentioned, Samuel Willis of Fitchburg, W. E. Faulkner of Acton, Israel Longley of Shirley, David Loring of Concord, and E. H. Derby of Boston. But it was not until the spring of 1843 that sufficient stock was secured to warrant the commencing of work, at which time twenty-seven miles of the road was put under contract, and the work finally began May 15, 1843. The first assessment of ten per cent. was made payable May 25, 1843.

"On the 1st of August Mr. Crocker and E. H. Derby of Boston sailed for England to purchase iron rails for the road. They returned about October 1st, having purchased four thousand tons, in addition to those already purchased. It appears that they bought at a favorable time, as an advance of six dollars per ton took place thirty days after. On December 20th the road was opened to Waltham; fare, twenty cents, or twenty-five cents including omnibus transfer to Brattle Street.

"The capital subscribed thus far was \$750,000. The company bought about twenty acres of land for terminal facilities, with two thousand feet of water front. This seemed to be a large tract at that time, but has since proved far too small, and much has been added.

"During the year great interest in railroads was manifested everywhere.



THE RAILROAD SYSTEM OF NEW ENGLAND THE YEAR AFTER THE OPENING
 OF THE FITCHBURG RAILROAD

From The Boston Almanac for the year 1846. By S. N. Dickinson.

We find meetings being held at Brattleboro and Greenfield, to consider a line west from Fitchburg; and at Keene, Bellows Falls and Rutland, in the interest of a northern route to Burlington. Also, at Nashua in favor of a line to South Groton, to connect with the Fitchburg railroad.

"Early in 1844 the agitation for a depot location in this city commenced. A most exciting controversy followed during the next few months, the effect of which was felt for years.

"To fully understand the merits of this controversy, it should be remembered that what constituted the principal village of Fitchburg, at that time, was situated above what is now known as Newton Place. Both the hotels, nearly all the stores and other business locations, were above this point. From the house of Dr. Boutelle, where is now the office of the Fitchburg Gas Company, corner of Main and Grove Streets, to the Fox house, where the opera house stands, corner of Main and Prichard Streets, there were but one or two buildings on the north side of the street; while on the other side, from the point of residence of Mrs. Alvah Crocker, at the corner of Main Street and Wood Place, to what is now Putnam Street, there were but six houses, five of which are standing to-day. The territory now bounded by Grove, Prichard and Main Streets was vacant land; and all the land in the rear, to the top of the hill at Mt. Globe and Mt. Vernon Streets, was bare of buildings and partly covered with forests. At what was known as the 'Old City' was one store, a blacksmith's shop, the stone cotton-mill and the boarding-houses attached thereto, also a sash and blind shop, on the site of the present Canal block. Below the David Boutelle house, opposite the depot, and in the territory now bounded by Blossom, Pearl, Pacific, Lunenburg and Main Streets, there were no buildings. There was a schoolhouse, and perhaps six or eight dwellings on the west side of Blossom Street; no hotel or church. The land, from what is now Railroad Park to the river, was practically bare.

"The charter read (in relation to location) 'to a certain point of land owned by Samuel Hale, thence to some point in the village of Fitchburg which shall best accommodate the people.' The land of Samuel Hale, referred to, was beyond the river, and where the gas works are now located. Mr. Crocker, the president of the road, unfortunately, perhaps, owned the most of the land now bounded by Water, Main and Summer Streets and the river, and known as 'Burbank flat.'

"A committee of directors (of which Mr. Crocker was not one) was chosen to locate the depot, and, after several weeks' consideration, located it on this tract. I find, about this date, most bitter and sarcastic editorials and letters of great length in the weekly *Sentinel*. A very lengthy

report was made by the committee, E. H. Derby and H. Adams, justifying their action, and accompanied by a report of the engineer, in which he gives comparative estimates of the expense of reaching different locations suggested. This latter closes as follows:

“The Fox lot is insufficient for the accommodation of both roads (meaning the proposed road west) and too far above their probable juncture. The lot at the “Old City” is very accessible and as we think sufficiently central for the accommodation of business; of ample area to allow of any enlargement with the probable increase of business; and by its adoption a probable saving of twenty-five thousand dollars may be secured to this corporation. With these views, I cannot hesitate to give my opinion in favor of its selection, as containing more advantages for a common terminus than any other of the proposed sites.’

“The ‘Fox lot’ referred to was the land now bounded by Grove, Prichard, Oliver and Main Streets. I think another lot proposed was the land now occupied for the west railroad yard, beyond the Priest Lumber Company location. The committee received a long and somewhat spicy remonstrance from the citizens, and gave them a patient hearing before making their final decision. Their indignation knew no bounds. They charged that ‘Mr. Crocker has unduly influenced the board of directors to buy his twenty acres of land for six thousand dollars; that forty feet had been lost in the grade from Leominster, to get down to his land.’ A petition, signed by three hundred and ten legal voters, was actually presented to the legislature, ‘to be incorporated for the purpose of constructing a railroad to connect the village of Fitchburg with the Fitchburg railroad.’ The newspaper discussion went on for many weeks, and is very spicy reading at the present day. I have been told that most of the principal stockholders here threw their stock upon the market and sold out, depreciating the same considerably below par, and that at the completion of the road scarcely any of the stock was held in Fitchburg. Mr. Crocker suffered severely from the episode, and the feeling engendered lasted for years. But who can say, at the present day, that the directors made any mistake in their location? Where could twenty acres have been bought that would so completely have served the purpose, as that which was secured? We certainly have to be thankful that the Fox flat, now occupied by the court house, armory, monument and churches, was not destined to become the terminus of a railroad, with all which it implies.

“From this time forward there was very little excitement here concerning the railroad. The work silently progressed. The road was opened to Waltham, December 20, 1843; to Concord, June 17, 1844; to Acton, October

1, 1844; to Shirley, December 30, 1844; and to Fitchburg, March 5, 1845. The opening of the road was not the occasion of any great demonstration. The following from the *Sentinel* of March 7, 1845, is its only account of the opening:

"FITCHBURG RAILROAD

"The passenger cars arrived at the depot in this town on Wednesday morning for the first time, bringing the officers of the corporation. The officers were greeted on their arrival by a committee of reception and by citizens, and were addressed by Col. I. Phillips, and in reply in their behalf by A. Crocker, Esq., president of the board. The passenger trains now run regular, leaving at 6½ and 10 o'clock A.M. and 4½ P.M. Freight trains run daily.

"The 'depot fight' had taken all the enthusiasm out of the people. The *Sentinel* appears to have turned the cold shoulder, for in the next succeeding weeks I find not the slightest allusion to the railroad, except the following in its advertising columns:

"FITCHBURG RAILROAD OPENED THROUGH TO FITCHBURG

"On and after Wednesday, March 5th, and until further notice, passenger trains will run over the Fitchburg railroad as follows:

"Up trains, leave Charlestown at 7 A.M., 1½ and 5 P.M.

"Down trains, leave Fitchburg at 6½ and 10 A.M. and 4½ P.M.

"A freight train will run both ways over the road daily.

"S. M. FELTON, *Engineer*.

"MARCH 3, 1845.

"But I find in the *Bunker Hill Aurora*, of March 8, 1845, an extensive two-column account of the 'opening,' from which some extracts are here given:

"The train bearing the directors and some of the stockholders left Charlestown at 7 A.M., and received demonstrations of welcome at various points along the route, especially at Leominster, where there was a general turnout of the people, with flags and banners waving, and a welcoming salute of artillery. At Fitchburg several hundred people were found, and cheers on cheers welcomed the new visitors. The Fitchburg band had been engaged for the occasion, and they added their fine music to the general joy which the event inspired.

"Col. Phillips of Fitchburg, in behalf of the citizens, addressed the president and board of directors of the road, and gave them a welcome to the town. He spoke particularly of the enterprise and the discouraging circumstances under which it had been commenced; the obstacles and

difficulties it had to encounter, and its completion and final triumphant success against all opposition. He complimented Mr. Crocker for his unwearied exertions and his indefatigable zeal in the work, from its first commencement to its completion, and thought that the success which had crowned the labor would compensate for the obstacles overcome. His remarks were received with applause and approbation, and the people assembled seem to feel and appreciate the truth of them.

“Mr. Crocker, president of the road, made a brief reply, in which he expressed the unexpected pleasure this spontaneous reception of the first passenger train into Fitchburg had afforded him. He spoke of some of the difficulties which the company had to encounter, and of the gratification which so large a degree of success as the company had met was calculated to inspire. His allusions to more local questions were delicate and proper; and in respect to the location of the depot at Fitchburg, being himself a resident of the town, and not wishing to exert any influence over that matter, he had left the determination of it entirely to the directors, not one of them knowing his views until after the question was decided. He said he hoped to have an opportunity before long of affording to the citizens of Fitchburg an opportunity to test the facilities of the road, and also of expressing himself more at length, than he could do on this occasion, on the subject of its construction and completion.

“Mr. N. F. Cunningham, one of the directors, having invited his associates and a few friends to his residence in Lunenburg, carriages were provided and they repaired thither (about five miles from the Fitchburg depot). Mr. Cunningham entertained his guests in a most sumptuous and elegant manner; and enough was seen of Lunenburg to enable us to say that under more auspicious circumstances this pleasant and delightful town would afford as many attractions of fine scenery and beautiful location as any other town in the state.

“Returning to the depot, the train left at 4.30, and arrived at Charlestown at 7 o'clock; and although the weather was exceedingly unfavorable, we believe we may say that the gentlemen were highly pleased and gratified with their excursion, more especially with the trip to Lunenburg. The moist atmosphere of the day seemed not to dampen the spirits or check the flow of wit and cheerful good humor which commenced with starting and continued to the return.”

“The article continues: ‘We have so far refrained from mentioning the efforts and labor of Alvah Crocker, Esquire, of Fitchburg, the well-known and indefatigable president of the company,—the sole projector and father of the Fitchburg railroad. In the commencement of this great enter-



FIRST PASSENGER RAILROAD DEPOT IN FITCHBURG

prise Mr. Crocker stood alone; and amid every vicissitude and every species of discouragement he pressed forward with indomitable zeal in his favorite project. Nothing could check his enterprise and no combination of circumstances cool his zeal. The opposition of interested parties, the lukewarmness of friends and the chilling taunts of some, only had the effect to draw out his energies in the labor of his heart; and the time has now come when he may look with delight and high satisfaction upon the completion, so far, of his great enterprise. The most triumphant success in the undertaking is now apparent; and the necessity for the road, and the business and travel which he foresaw justified and demanded it, are now made manifest and are now securing to the stockholders the result of a wise and judicious investment of their money.

“The efforts of Mr. Crocker over the entire line of the road (in which we believe he addressed more than one hundred meetings of the people), as well as his other services out of and in the board of directors, have been such as few other men could have performed; and the purity of motive and the singleness of heart in which Mr. Crocker went into this work and pressed it to such eminent success, are equally creditable to his public spirit and to his patriotism.

“It is undoubtedly due to the board of directors to say, that from the first, Mr. Crocker has possessed their entire confidence, and they have never failed to give him, in every emergency, their prompt and cordial support; and it is but justice to him to add that they have found no occasion to regret this course, nor any cause to doubt his sagacity and the correctness of his proceedings.

“We have occupied more space in these remarks than we intended, and we may add that they rest altogether upon our own responsibility. We have not made them to minister to any morbid sensibility on the part of the gentleman named, nor for any other reason whatever than the simple one that we know them to be true and deserved.’

“This tribute to Mr. Crocker was undoubtedly well merited, and I doubt not would have found public expression in Fitchburg at the time but for the unfortunate depot episode heretofore alluded to.

“The capital of the company, at the completion of the road in the spring of 1845, was \$1,322,500. The length of the road was forty-nine and one-fourth miles, which was built at a cost of about \$23,000 per mile; the whole work being done by S. F. Belknap, under contract, he supplying all material except the rails. S. M. Felton was the chief engineer, and afterwards the first superintendent of the road. It was built during a period of financial depression, when money was, for a portion of the time, worth one to two

per cent. a month; but it was built entirely from subscriptions, and with no state aid, as the Western railroad had received.

"It is recorded that during its construction 'the company never borrowed a dollar, never gave a note, nor had a lawsuit, and met with no accident of any account.' It was essentially a Fitchburg enterprise, having its inception here, and carried on to completion largely through the efforts of Fitchburg men, while its capital was largely furnished by the people of the towns along the line and not by the capitalists of Boston.

"Upon its completion, it immediately entered upon a most prosperous career. Its first dividend was paid in August, 1845, at the rate of eight per cent. per annum. In 1846 it paid ten per cent.; 1847, ten per cent.; 1848, nine and one-half per cent.; 1849, eight per cent.; 1850, eight per cent.; January 1, 1850, its capital stood at \$2,650,000. Its history from that time to the present it is not my purpose to give in this paper. Suffice it to say, that it has progressed and developed with the ever-increasing demands of a growing country, and has always had an honest management. It has absorbed other lines and become one of the great arteries along which courses the tide of business from the seaboard to the country's utmost limit. From a million and a quarter capital, no debt, and fifty miles of track at the beginning, it has increased to the present capital of \$22,164,300—and a bonded debt and guaranteed stock of lines it has absorbed, of \$25,042,600—and 436 miles of track.

"Commencing with three passenger trains and one freight train each way, daily, it has increased to thirteen passenger and over twenty freight trains, daily, in each direction. The Vermont and Massachusetts railroad was the next road, having a terminus in Fitchburg, to be built.

"In November, 1843, a circular signed by prominent citizens of Athol, Greenfield, Northfield, Vernon, Brattleboro, Putney, Newfane and Royalston, was issued, calling a convention of all interested in the 'extension of the Boston and Fitchburg railroad to Brattleboro, Lake Champlain and Canada, to meet in Brattleboro on Tuesday, December 5, 1843, to devise and execute measures to effect the same.'

"Singularity enough, no one from Fitchburg appears to have signed the call. The meeting was held as called, and about one thousand delegates were present. Committees were chosen, resolutions adopted, and an adjournment made to Athol for December 21, 1843, where the work was thoroughly organized. The means taken to arouse public interest along the route, and to secure subscriptions, were much the same as in the case of the Fitchburg railroad; and Alvah Crocker again seemed to be the moving spirit of the enterprise.

"An act of the legislature of Vermont to incorporate the Brattleboro and Fitchburg Railroad Company was passed in October, 1843, and an act of the legislature of Massachusetts to incorporate the Vermont and Massachusetts Railroad Company was passed March 15, 1844. Both of these had provisions for the union of the two companies, which was afterward effected, and the company organized as the Vermont and Massachusetts railroad company in November, 1844, and the following directors chosen: Nathan Rice, Thomas Lamb, Isaac Livermore, John J. Low, Jacob Foster, Joseph Goodhue, Henry Timmins, Joseph Davis, H. W. Fuller, Calvin Townsley, Alvah Crocker, Gardner C. Hall, John R. Blake. Nathan Rice was the first president, F. W. Buckingham, clerk, and John Rogers, treasurer. Alvah Crocker became its president in 1845, and continued to serve until the road was completed.

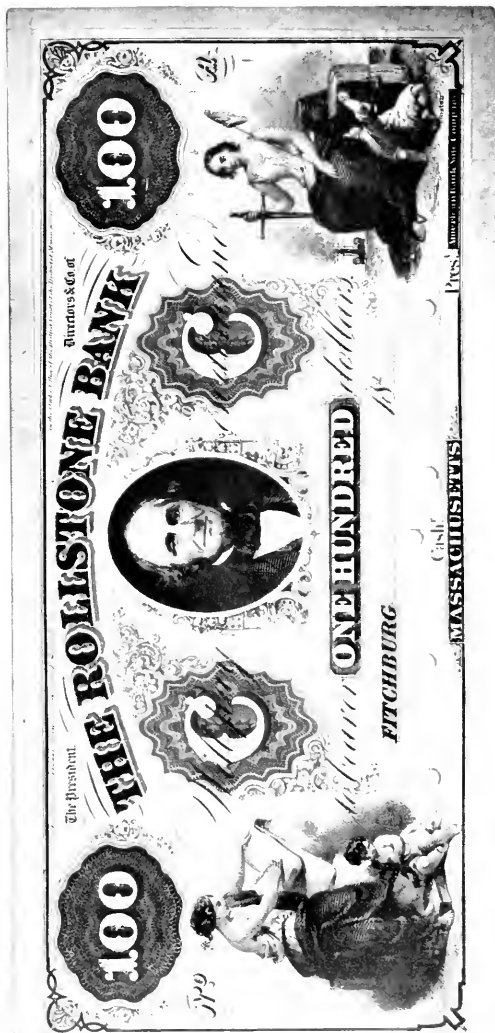
"Work was commenced in September, 1845. The road was opened to Baldwinsville, September, 1847; to Athol, January, 1848; to Montague, December, 1848; and to Brattleboro, February 12, 1849. This company was not a financial success for many years, but was destined, ultimately, to become an important factor in the great line of which the Hoosac Tunnel was the greatest feature. It continued to operate its line until 1874, when it was consolidated with the Fitchburg railroad by a lease for nine hundred and ninety-nine years, executed on the seventh of January, 1874."

An appreciation of the significance of this enterprise is to be found in the speech following, delivered by Charles H. B. Snow at the Centennial Celebration of Fitchburg on June 30, 1864:

"The Fitchburg R.R. was then completed, the natural resources of the town for the first time made fully available, and new businesses inaugurated. This great work, for great it was in view of the difficulties and embarrassments that had to be overcome before sufficient support could be secured to warrant even its commencement, was the fruit of the energy, foresight and perseverance of various citizens—chief among whom I may be permitted to mention Samuel Willis, whose name is held in affectionate regard for his many public and private virtues that illustrated his unobtrusive but useful career, and Alvah Crocker, whose comprehensive policy even at that early day conceived and fully grasped that system of railway intercommunication that was to unite New England with the West, and make our northern valleys the channels through which the boundless agricultural wealth of the prairie should flow to the ocean.

"The difficulties they had to overcome were many of them such as would be unknown in a similar enterprise at the present day. Our railway system was comparatively in its infancy. Fitchburg, nestled among

the hills in bleak and barren northern Worcester, was but little known. Many who were solicited for aid, professed to have never heard of it; the country through which the road was to pass was neither densely populated nor rich, and the construction of a continuation which should make it a great northern and western line of communication was considered a wild speculation. Bold enterprise was not so much the fashion of that day as of the present, and it was under all these difficulties that by exercise of that faith that is said to work miracles, and by that perseverance that feeds upon rebuffs, the work was commenced and carried to its triumphant completion. From that day Fitchburg may date the period of her real growth and the commencement of a business career of great prosperity. Another result of general interest and great importance followed the successful construction of the Fitchburg railway. It had previously been supposed that all undertakings of such vast magnitude could only be carried on by the great capitalists as they are called, but it was then for the first time discovered that they could possibly be dispensed with and that the united contributions of those who lived upon the line of the proposed route swelled into an aggregate amply sufficient for all purposes. The larger proportion of the stock of the Fitchburg railway was accordingly taken by persons of moderate means, as a secure and permanent investment and it is so held today. The discovery thus made was generally availed of, and an entire revolution in these great social enterprises followed.—But few towns have felt the life-giving influence of that policy more than Fitchburg.”



A BANK NOTE WHICH SHOWS ALVAH CROCKER AS HE APPEARED WHEN PRESIDENT OF THE ROLLSTONE BANK

CHAPTER IV

ALVAH CROCKER'S PERSONALITY

IT is easy to infer a great deal about a man from such a record as we have so far followed, and yet if we should stop and ask ourselves, "What sort of man was Alvah Crocker?" we should feel as though our view had been a distant one.

Singularly enough, very few of his personal papers and letters have been preserved, but fortunately his diaries from October, 1843, to December 12, 1845, remain. Most of the pages contain brief reports of his unceasing activities in connection with the Fitchburg and the Vermont and Massachusetts railroads, interspersed with cash accounts. Here we find him securing a deed for some parcel of land needed by the road, there we find him arising at half-past four of a dark autumn morning to take the stage from Lebanon to Concord, New Hampshire, or journeying at other times to Washington in the interests of the railroad. Almost the only reference to his paper business concerns the Crockerville mill, which he sold with deep regret. We may wonder that without his close supervision his business managed to survive those intensive years of railroad promotion.

In the midst of important transactions and frequently of petty details we stumble at times upon the answer to our question, "What sort of man was Alvah Crocker?" We discover that deep in the soul of this dynamic, ceaseless worker was imbedded the tenderest of human affection, a wealth of sentiment and a deeply religious nature.

We observe as well an appealing liberality in his ways, for in spite of the fact that he was a devout church-goer, it is evident that he held to the view that the "Sabbath was made for man, not man for the Sabbath," and at a period when others either considered it wrong to work on Sunday or lacked the courage to encounter public opinion in the matter, Alvah Crocker frequently found time both for worship and work on the Lord's Day. The only thing for which he seems to have had no time was a vacation. But let the following excerpts from his diary bear their own testimony.

October 14, 1843: Commencing as I do this journal upon the Sabbath as well as the anniversary day of my birth I cannot but acknowledge my devout gratitude to that Being who has sustained me through all the trying scenes of Life's Pilgrimage and by whose mercy I hope when a few more short days are spent to meet those dear friends who have gone before me in the Elysium of the Blessed.

I attended church at a schoolhouse, the preacher I did not know, his theme was the death of Channing of Ware and well did my soul respond to many of the sentiments which he uttered, the friends whom I had just lost, Willis and Burrage, were constantly in my mind. In the evening I took leave of many who seemed to take some interest in me and arrived at Woodstock eighteen miles at eleven o'clock.

Tuesday October 17, 1843. I find myself feeble. I have rec'd such a shock from the death of dear friends that I know not when I shall regain my wonted spirits. I am treated here with great kindness and receive introductions to Mattock Esq. and all the leading men of Vermont. Hyde, Follett of Burlington, &c in the afternoon I attend the sitting of the Legislature or assembly, the debaters are men strongly marked for talent and great dignity and decorum is preserved. On my return I meet Gov. Paine who treats me very cordially and with whom I retire to his private room for a few moments before tea. We commence an argument during which time my wallet is stolen by one of two men who came in and had business with Gov. Paine. In the ev'g I went before the committee of roads and explained to them as near as possible the state of the matter and the claims which Southern Vermont had for the facility of steam power.

Wednesday Oct. 18, 1843. . . . Saw for the first time my old Correspondent Stevens of Barnet, the Antiquarian, spent the evening with him borrowed Burgoyne's Courtmartial of him and read it that night, he calls Gates Mr. & Arnold also.

October 19, 1843 Thursday. I made up my mind to leave Montpelier this morning and took leave of my many new friends. Cottrel refused pay for my fare on acct. of my being robbed. Paine and others offered me money to come home with, but I finally accepted of some from Smith \$1500. Cottrel introduced me to Gen'l. Warren of Middlebury a most excellent man for a stage companion he raised a battalion of Green Mountain Boys in the last war and amid the sneers of the Reds marched to Plattsburg where he arrived in time to drive off Sir George Provost and to witness the victory of McDonough on Sunday morning; he gave me a thrilling account of the sufferings of the wounded after the action. He lost only two men wounded. For his services Congress has not yet voted him one cent, such is the dilatory character of Govt. After spending a pleasant ride with him we arrived at Lebanon nine p.m. sixty miles from Montpelier where I held a debate upon the extension of Concord R.R.

Sunday October 22. Attended meeting both services Harris an old prosing preacher in the forenoon and Beckwith the peace man in the afternoon. I had heard the elements of this discourse from his lips five times before.

Sunday October 29, 1843. When I come home and sit down in the retirement my thoughts immediately recur to my friends who are now cold in their graves Burrage and Willis. What a sad day I have passed. I was glad at night's return to my pillow to shut up by sleep the memory of the past. I heard Mr. Bullard however half a day.

Tuesday Oct. 31, 1843. Spent the forenoon in Athol with Estabrook, Kendall & Jones. After dinner rode with Harris, a Millerite, who says the world must be burned up before 1844 and the saints rest upon a sea of glass; in vain did I attempt to reason with him that the seventy weeks might not be seventy weeks of years &c &c. Came to South Orange and lectured to a full house in the evening. The good people here have hardly yet thought upon the subject. . . .

Thursday Nov. 2, 1843. Find myself better and as soon as the weather will permit shall leave for Northfield. Still I feel that "the worm the canker and the grief are mine alone." When shall I recover my wonted spirits?

Saturday November 4, 1843. After taking breakfast with Mr. W. he kindly took me to Doct. Washburn's in Vernon, we come to the Ferry upon the Connecticut in time to save a miserable drunkard from falling from a boat into the water. I find that the Railroad may be carried over to the Vermont side and the bridge widen'd for toll which will defray much of the expense. I dined with Doct. Washburn and after conversing with E. T. Davis of Greenfield came with Doct. Washburn to Brattleboro where I took tea with Esq. Bradley and his interesting wife. At seven I again met the inhabitants of Brattleboro who decided for an immediate convention. I then return with my friend Hall to his hospitable mansion to spend the night. I have this week met four audiences and travelled more than 100 miles.

Sunday Nov. 5, 1843. How beautifully the sun is pouring its light upon me as I am seated in the dining room of my warm and cordial friends Mr. & Mrs. H.—may the Sun of Righteousness beam upon me onward in my weary pilgrimage, and when it is finished O may I fly away and be at rest.

"Where rivers of pleasure unceasingly roll
And the smile of the Lord is the feast of my soul
Hide me O my Saviour hide me
And receive this weary Soul at last."

.

Weary indeed, but if my friends all die may I not lean upon that Rock of Ages which is higher than I. . . .

Friday Nov. 24th 1843. Stormy in forenoon in the afternoon went down and took leave of one of my most intimate friends who is just leaving the world for Heaven. Mrs. H.—Never shall I forget the interest this lovely being has ever manifested in my welfare.

Monday January 1, 1844. By the kindness of Him who never slumbers or sleeps I am permitted to enter upon another year. May it be devoted to usefulness to the promotion of good to others and if I do not live to its close may I live with reference to sleeping in the bosom of that Saviour which is the Rock of my Salvation.

Monday January 22, 1844. The locating Depot Committee arrived at Fitchburg and prepared to examine the several spots designated for the purpose.

Tuesday January 23, 1844. Hearing upon the subject of Depot location at

Putnam's where I disclaimed any interference with this question and was sustained by the Committee and Engineers.

Wednesday January 24, 1844. Meeting of the Board decided upon the Burbank Flat for a Depot subject to the decision of the engineers.

Friday January 26, 1844. Made contracts with Davenport & Bridges for six passenger cars each to have a saloon, water closet etc. sixty-four seat for \$5200 with another hundred dollars discretionary with the Committee should the cars be such as will warrant it. On settling this contract started with Loring for Concord where I stopped during the night.

Saturday January 27, 1844. On returning from Gardner Mass. near Rayments Mill I noticed a two-horse team coming up. Finding the driver persist in keeping the road I threw my horses into the snow entirely out of the road, but the whiffle tree of his nigh horse raking the legs of mine and a board striking the top of mine which took it off, my horses jumped and finally spilt us out and run. We picked up and walked almost to Fitchburg.

On February 12, 1844, Mr. Crocker started for Washington, arriving on the 15th, his purpose being to get a remission of duty on railway iron. His letter on this subject to the Hon. George Evans, Chairman of the Committee on Finance in the Senate, is reprinted in the appendix. He also was interested in securing a contract for the Fitchburg Railroad to carry the mail. Some of his experiences during the visit are recorded as follows in the diary:

Sunday Feb. 18, 1844. Awoke in the morning with ill health but find myself better at 11 A.M. My night's rest disturbed by dreams which is very uncommon for me. Home the welcome of those who are dear to me there was the illusion which I awoke to find was not a reality. . . .

Friday Feb. 23. In the morning saw Evans who says Buchanan is violently opposed to remission of this duty. In the eve. saw Choate of Boston & Webster who are in favor of remission. I then visited Parmenter and got a letter to Mr. Buchanan who I shall visit tomorrow.

The effort to see the President was not successful. In the following days he was occupied with calls, correspondence and the preparation of his letter to Mr. Evans which he had printed and widely distributed. He finally succeeded on March 4th in seeing the President who said he should "persist in opposing the remission of duty." Nevertheless each day found him pressing his arguments with one or another of the Senators and Congressmen until having done all that seemed possible he departed on March 23, stopping on his way home at New York, and arriving March 26 only to plunge into the usual round of activities, contracting for material, settling



MAIN STREET, FITCHBURG, IN 1867

View west of Prichard Street.

deals on real estate, etc. On April 24 we find him in Philadelphia negotiating for locomotives. On April 25 his diary continues:

In the afternoon visited Messrs. Baldwins and Norris Locomotive Works, promised to write Derby upon the proposition of Norris to put an engine upon our R.R. at his own expense and if it worked well to our entire satisfaction we were only to keep it.

From Philadelphia he went again to Baltimore and Washington, bound to obtain the remission of duty on railroad iron. He took advantage of his presence at the Capital to visit Mount Vernon, which he describes as follows:

Monday Ap 29, 1844. Arose early and in company with Mr. Dillingham Doct. Dewey and Mr. Smith visited Mount Vernon. Started by steamboat at 8 A.M. and arrived at said dilapidated seat at 11 A.M. road intolerable. The mansion fronts upon the beautiful Potomac but is fast going to decay. I should think it about 100 by 40 with wings semicircular which adjoin small huts or buildings appropriated for the slaves. I visited Washington's library room here was a bust of Lafayette of Washington himself, & I suppose a couple of paintings were those of his ancestry. I visited the old tomb where Washington slept until recently when his dust was removed to a spot looking down upon the numerous tumuli of his slaves where it is said he wished to sleep. The walls are brick with an iron door through which are seen the marble coffins enclosing lead ones containing the remains of George and Martha Washington over the gate also reads "Within this enclosure rest the remains of Genl. G. Washington." I went into his fruit garden. I snatched a lemon leaf from a tree planted by Washington's own hand, but even this like the negro who attended upon it and who was slave to the Genl. during his life was going to decay. Fire had swept off a part of the roof. All was decay. Could not a nation thought I owing its birth to this great man now rich in wealth and resources purchase and restore the hallowed spot. Are we to look coldly on till the last sacred vestige save his own noble character is lost. God forbid. Such sentiments seemed to pervade the breasts of all present and a vote was passed instructing me to draw up a memorial to circulate at Baltimore to have the country purchase and restore said consecrated spot. . . .

After nearly a month of ceaseless work on the remission of the tariff on iron, we find this brief record for Thursday, May 23: "I am heartily tired of the delay in the Senate upon my bill Evans behaves shabbily."

June still finds Mr. Crocker in Washington, and on Sunday, June 2, he writes in his diary: "Went and heard the Society of Friends. Gave great evidence of Piety but not of talent. Wrote G. K. Miles & Co., Wife, B. Snow and G. Ralston."

During the following week he made a trip to Cumberland, and with characteristic thoroughness made the following observations in his diary:

"The first 100 miles of the Baltimore and Ohio R.R. is the Snakehead rail but kept in good order as it is examined twice each day by men appointed for the purpose. I found the other 97 miles the best road I ever was on. The superstructure is just a subsill 3 by 8. Then a cross tie about 6 inches square. Then a horizontal sleeper 5 x 7 inches let into the subsill or cross tie 2 inches (of pine) upon this sleeper is laid a heavy rail weighing 58 lbs to the yard bolted to the sill. Broken stone is filled up between the cross ties to the depth of a foot at a cost of \$1300 per mile. Speed 20 M per hour. No accident upon the road from its commencement to a passenger. Some one broke an arm. Fuel upon this railroad 1.50 per cord. Coal bituminous 6c per bushel."

On June 11, Mr. Crocker returned to Washington at 7 P.M. "Found my R.R. bill had gone by the board. Almost all who had promised to go for the bill voting against it." Two days later his disgust is evidenced as follows in the diary:

Friday June 14/44. Took leave of this degraded hollow-hearted place Washington. A place which of all other places I loathe and abhor. I shall remember with pleasure Messrs. Rust, Haines and others and though unsuccessful shall sure feel that I have done all in my power to accomplish the object for which I was sent.

Saturday & Sunday 15 & 16th. Came to New York where I found Mr. Hoyt & Mr. Chas. Davis who seemed right glad to see me. Came on board the Norwich in company with Mr. Carter. Mr. Harris and others. Left my umbrella. Slept at Worcester and hired a private conveyance for \$1. and came to Lancaster. Stopt and heard Mr.—— in the evening. Came with stage horse to Fitchburg. Once more to enjoy my family.

Monday July 8, 1844. Spent the forenoon with Mr. Lyon upon the sale of my Crockerville mill.

Sunday July 28, 1844. Attended meeting at Dorchester in the forenoon. In the afternoon went to hear my friend Neal in the city. Never did life seem so much of a burden to me as now. I have parted with the property once so dear to me because I cannot keep it with my present duties standing as it does entirely unproductive. It is where all my strongest efforts were made and in a village called by my name. How sweet sometimes is the thought there is a grave.

Tuesday July 30. . . . Met Mr. Lyon at Grants he wished to have the height of the dam specified. Gave him a writing to that effect upon which he paid me \$3000 in cash. He then gave me a note for 200 towards the machine and Vinton 100 because of Dryer at L Mill. Gave me \$3500 in notes and Vinton same. Subsequently he furnished me

Bk stock	\$500
With the Gill note mortgage	979.17
Cash to square and took up	3 notes.

Monday Oct. 14, 1844. Forty-three years old and what have I done and how far have I fell short of the mark by which through the power of Him who never slumbers or sleeps I had set for to reach. But the Lord is my Shepherd and if He does not make me to lie down in the green pastures He will soon have done with me on earth when I hope to meet with Him in His mercy above. What a bubble is life. . . . Bought slabs of Woodward 1.75 per cord. Saw Putnam told him that if I did not tell him tomorrow I would take his boards \$9.50 per M.

The diary record of the next four months contains a variety of memoranda on business deals, meetings of directors and accounts. Then we suddenly come upon Mr. Crocker's brief and laconic account of the opening of the Fitchburg Railroad:

Wednesday March 5, 1845. Opening of the Fitchburg Railroad. At 7 A.M. we started from Charlestown. When we arrived at Leominster we were cheered and announced by the roar of cannon. At Fitchburg we were met by citizens of the Town and addressed by Col. Phillips very appropriately. He attended to the mass of enemies, efforts of sectional men and complimented me. I replied by thanking them for this token of respect and stated one fact not generally known, that in the unhappy feeling which pervades the minds of some toward me I did not participate not having had anything to do with the Depot Location.

The feeling is unescapable that the lack of entire harmony and enthusiasm among the citizens over an event which should rightly have claimed unanimous approval, took the keen edge from Mr. Crocker's own pleasure in his moment of achievement. Not many pages farther on we find the following comment in Mr. Crocker's diary:

Monday March 24. They press upon me the office of Pres. of the Vt. Road. . . . I am now to cut loose from those who have thus far kindly sustained me and embark in an untried field. I look to that Being who has ever sustained me whose I am and to whom I am soon to return.

In April, Mr. Crocker again visited Washington to make a proposition to the Post Office Department for carrying the mail for four years including side service from Boston to Fitchburg for \$6500. His impressions of President Polk, which history has not disputed, are of interest. "On Saturday Eve I called upon Mr. President Polk who seems to be a second rate man but appears well. Mrs. Polk is richly attired changeable silk muslin cap &c."

Wednesday, May 14, 1845. Took breakfast at Burns and Retd to Fitchburg after having met the board of the Fitchburg and resigned my connection with them after feeling an interest more engrossing than any yet felt I am called

upon unexpectedly to sunder a tie for the success and perpetuity of the fortunes of the new effort which I am about to embark upon.

On Sunday, August 24, Mr. Crocker went for the day to the seashore, and his sentimental disposition shows up in the following lines from the diary:

Monday August 25, 1845. Came from Boarshead to Newburyport in morning, visited the graves of my Fathers. Took a part of the sill of Grandfather house (Oak) home.

These foregoing personal impressions of Alvah Crocker, while forming a somewhat disconnected chain of narrative, still serve to answer the question which we asked ourselves at the beginning of the chapter as to what sort of man he was, and with one more excerpt from his diary we will leave the reader to form his own conclusions:

Tuesday Oct. 14, 1845. Just 44 yrs have I now toiled and struggled with life. I have felt the loneliness of solitude with scarcely a friend to lean upon. Stood upon the rugged cliff with no staff to support me. O if my Redeemer liveth shall I when life's struggle is over sleep in his bosom.



GARDNER S. BURBANK

CHAPTER V

BUSINESS INTERESTS

DETAILED information regarding the progress of A. Crocker & Co. between the years 1837 and 1850, when the firm of Crocker, Burbank & Co. was established, is scanty. In spite of the extraordinary drain upon his time by public duties and the promotion of the railroad enterprise, Alvah Crocker conducted his personal affairs with increasing success. A disastrous fire in 1842 levelled in a night his best mill containing a large stock of paper and rags, which was only slightly insured, but this misfortune, like all others that fell to his lot, was overcome by his indomitable will.

Undoubtedly the increasing pressure of affairs was the reason that led Mr. Crocker to seek a partner, and the selection of Gardner S. Burbank proved to be a wise choice. Mr. Burbank was a thoroughly practical paper-maker, a son of Abijah who built the first mill in Worcester County in 1775, and a nephew of General Leonard S. Burbank who built the first mill in Fitchburg and had been Mr. Crocker's employer. Mr. Burbank learned his trade in Montpelier, Vermont, and later worked in the Millbury mill under his uncle, General Caleb Burbank, as well as in Worcester under another uncle, Elijah Burbank. Subsequently he built a mill at Russell, Massachusetts, in partnership with Cyrus W. Field and Elizur Smith, which he left to accept Mr. Crocker's offer. At this time the production of the mills was 1,500 pounds per day. Mr. Burbank was not in vigorous health, and retired from the business in 1866, having amassed a comfortable fortune, which has finally come by his will to found the Burbank Hospital in Fitchburg.

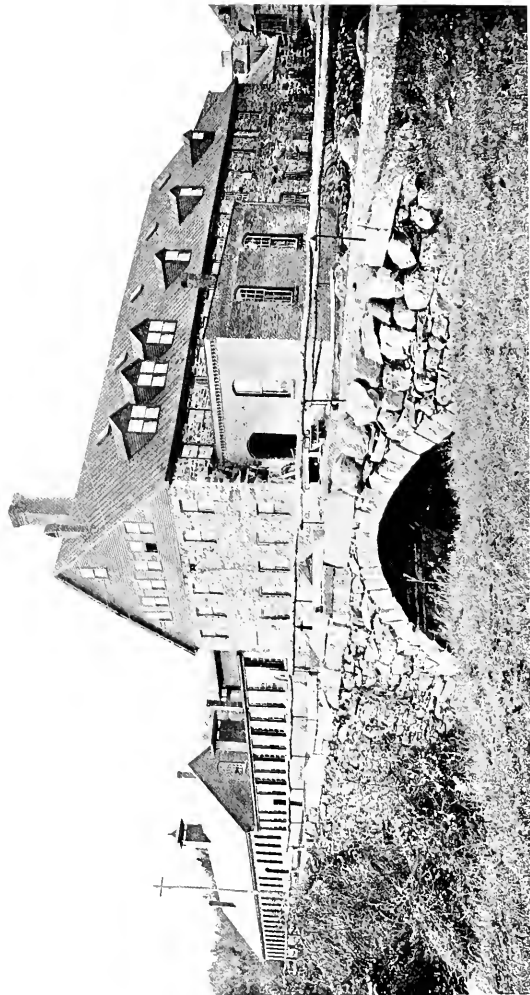
It is a rather significant fact that of eight mills acquired by Crocker, Burbank & Co. between their establishment and 1874, Mr. Crocker was concerned in the construction of but two. The others were purchased by him from various men who attempted to undertake paper manufacture in Fitchburg. The Snow Mill, or Upper Mill, was built by S. S. Crocker in 1839. Benjamin Snow, Jr., bought it in 1847, and it was sold by him and Samuel Whitney to Crocker, Burbank & Co. in 1862. The Cascade Mill, built about 1842, was owned first by S. S. Wheeler, George Brown and Joel Davis. It was later bought by E. P. Tileston, Jonathan Ware, and Franklin Wyman, who sold it to Crocker, Burbank & Co. in 1863. The

Upton Mill, now known as the brick mill, was built in 1851 by Edwin Upton and Alvah Crocker, and was acquired by Crocker, Burbank & Co. in 1859. The Lyon Mill was built in 1853 by Moses G. & B. F. Lyon and purchased by Crocker, Burbank & Co. in 1869. The Hanna Mill was built by George and Joseph Brown about 1852, passed into the hands of Samuel Hanna, who sold it to Crocker, Burbank & Co. in 1860. The Whitney Mill in Rockville was built by Whitney & Bogart in 1847, was owned for a time by Crocker, Burbank & Co., and then passed successively into the possession of Samuel Whitney and William Baldwin, Jr., from whom it was repurchased in 1868 by Crocker, Burbank & Co. The Stone Mill below the Snow Cascade Mills was built for the joint ownership of S. A. Wheeler and Joel Ames, who owned one-half, and Alvah Crocker, who owned the other half. In 1864 Crocker, Burbank & Co. purchased the interest of Wheeler and Ames, and the firm took over Mr. Crocker's half in 1871.

The increasing business requiring more direction led to the admission to the firm in 1855 of Charles T. Crocker, the only son of Alvah. Mr. George F. Fay and Samuel E. Crocker, a first cousin of Alvah, were admitted to partnership in 1863.

Charles T. Crocker was born in Fitchburg on March 2, 1833. After having received a public school education he entered his father's mills as an apprentice and learned the business thoroughly. He was twenty-two years old when admitted to the firm, and, while becoming less prominent as an initiator of enterprises than Alvah Crocker, he displayed genuine ability in "carrying on." At his father's death he succeeded him as head of the firm of Crocker, Burbank & Co., as well as in numerous other positions of trust. Under his management the paper company experienced a constant and successful growth, while it is largely indebted for its present success to his sons and grandsons.

The years just previous to and succeeding the establishment of Crocker, Burbank & Co. comprised an exceedingly active and engrossing period in Alvah Crocker's life. He owned a chair factory and a machine shop, both of which were destroyed by fire in 1849. He was a leader in various activities. In 1847 he was prominent in establishing the Fitchburg Mutual Fire Insurance Company, presiding at its organization and becoming a director. This office he retained throughout his life. He was also on the first board of directors of the Rollstone Bank, incorporated 1849, of which he became president in 1869. He served as a Trustee of the Fitchburg Savings Bank from 1851 until his death. He was one of the original organizers of Christ (Episcopal) Church in 1863, and its senior warden to the day of his death. He gave the land for the church building, presented the organ and was one



THE OLD STONE MILL, FITCHBURG

of its most liberal financial supporters. In the promotion and completion of a system of city water-works his activity is again to be noted. He played a leading part in overcoming the opposition which was raised to this project which is now recognized as having been one of the most important improvements ever made for Fitchburg. He was vitally concerned with the planning and promotion of the Hoosac Tunnel. In 1847 and 1848 he is said to have delivered several hundred lectures on the subject in New York and New England. Work on the Tunnel was begun in 1855, and Alvah Crocker became one of the commissioners, and superintendent when the State finally took over the responsibility. Of this and of the completion of the Troy and Greenfield Railroad, which also occupied much of his time, we shall hear in a later chapter.

With the outbreak of the Civil War, further calls were made on Mr. Crocker. Always an ardent abolitionist, he threw himself with great zeal into all measures for the suppression of the rebellion. "Governor Andrew entrusted him with the honorable duty of caring for the wounded Massachusetts soldiers, and more than one patriot can testify that when funds were not available for the relief of his need, the money of Mr. Crocker was at once and judiciously drawn upon to convey the aid desired." General Benjamin F. Butler in a memorial address in Congress said of him—"Too advanced in years to take part in arms, he exerted himself to send forward troops, and while the war was waging he made a voyage to England and spent very considerable time in impressing upon the manufacturers of England the condition of our country and the necessity that there should be a community of interest and thought and mutual fellowship between those classes in both countries that represent the industries of the people.

"When the war was over, not unmindful of those who had gone forth at his solicitation to battle for the country and laid down their lives in its service on the battle-field, he exerted himself with his accustomed power and vigor, contributing thereto largely of his own means to provide that the fallen heroes of his city should have one of the most elaborate and costly of the many monuments erected to the memory of those who fell in battle in that war, and fortunately lived long enough to see it completed, having made the address at its dedication but a few months before his decease."

It is related that on first receiving the news of the final surrender of the Confederacy, Alvah Crocker gathered together a number of persons who happened to be in the vicinity of his house and asked them in to join in a prayer of thanksgiving. This act was thoroughly characteristic of his devout nature, though his life was more suggestive of the old Albigenian motto, "Work is Prayer."

In the midst of all these activities he became in 1862 a State Senator, doubtless feeling that in this position he could more effectively work for the extension of railroad connections with the West, which had been one of his earliest dreams.

At the Centennial Celebration of the founding of Fitchburg in 1864, the speech of welcome was delivered by Hon. Alvah Crocker. Revealing as it does the warm-hearted geniality of his disposition, his pride in his home town and his constant yearning for its future success, it justly claims a place in this narrative.

"It is my grateful duty, on behalf of the citizens of Fitchburg, in the briefest manner possible to bid you all, ladies and gentlemen, a warm and cordial welcome on this Centennial occasion,—a welcome to our hearts and homes and to all the joyful festivities of the day. To all who have either known or lived in this 'tortuous winding gorge,' this broken, rock-bound Fitchburg, or anything pertaining to, or belonging therein, she sends forth that good old Saxon word of 'Welcome.'

"Men in the cycle of time, with our star planet set and revolved in its place among her sister stars and suns by the Great Architect and Builder Himself, we have been able to measure diurnally, monthly, yearly, till the nascent bound of this municipality counts one hundred years. As a young child rejoices in its birthday, so does Fitchburg rejoice with you in this her first measure of time.

"How many hearts long separated but never forgotten send forth a quicker, a warmer pulsation in the sweet communion of to-day! How many 'God bless you's' will be intonated here as we see those who have at some time heretofore twined round us the tender cords of kindness and love! You whom I now see before me, by whom our thoughts have been raised from the sacred desk to the very portal of heaven, to-day you rewrite with us those very thoughts, those prayers and praises. You who have either taught us law or justice, or how to read in the district school, no matter if your lessons were in grammar, history or arithmetic, or have been forced into our little craniums by some twinges or compressions about our heads, God bless you! All now before me who have ever contributed to our history, to our physical, moral, social or intellectual development, Fitchburg bids a hearty, a cordial greeting. Perchance you left us twenty or thirty years since. If so, go with us where you left white birches and black alders. We will try and show you streets, roads and railroads spanning our beautiful streams with stone arches, workshops and factories. You left us a hamlet; you find us almost a city. For a small valuation then, we show you millions now. Forgive us that we cannot show you more.



ROLLSTONE NATIONAL BANK, FITCHBURG

Alvah Crocker served on first Board of Directors and was President from 1869-1873. Henry A.

Willis, President, holding the horse. John M. Graham, Cashier, standing in doorway, on the right. Edward Wood, son of General Moses Wood, first President of the bank, at left of doorway.

We have not removed all the excrescences, or polished this gem, this diamond of the valley, as we should have done in your absence, though if you will forgive and overlook our past shortcomings, we will try hereafter and do more and better.

"Visit again, before you leave us, our hills and valleys, our groves and plains, our meadows, rocks and lovely Nashua. Go with us especially to yonder city of the dead, those consecrated spots where rest so many loved ones. Kneel with us there, while we cast our eyes upward with yearnings of love to their ethereal spirit homes. Bow, too, at the graves of those noble heroes who have shed their patriot blood for constitutional liberty. But I cannot delay you. I cannot say more than once more repeat a fond welcome to this reunion sweet to us, sweet indeed to every Fitchburg heart,—we trust it may be so to you. Though never to be enjoyed by us, together here indulge us in the prayer that it shall be the archetype of another reunion which shall be spiritual and perfect, where the tented canopy shall be the heaven of heavens, where God Himself, the glorious Deity, shall be the light and dazzling sun of our righteousness, and where His angels are our seraphs, and the Redeemer Christ the sun pole-star of our Celestial Cruise."

Mr. Crocker was ever on the alert for the greater development not only of his own town but of neighboring communities. Hence, while searching for a more direct route between Greenfield and Millers Falls than that afforded by the Vermont and Massachusetts Railroad, his attention was attracted by Turners Falls. Seeing its possibilities as the site of a manufacturing town through the proper development of its water power, he organized the Turners Falls Company in 1866. He had dreams of a city which might some day rival Lowell and Holyoke as a manufacturing city, and although falling short of this accomplishment the town stands next to the Fitchburg Railroad and Hoosac Tunnel as the finest monument to Mr. Crocker's genius and foresight.

The Company acquired the property and franchises of an old organization known as "The Proprietors of the Upper Locks and Canals of the Connecticut River in the County of Hampshire." Large land-holdings were also secured in the town of Montague on the river front near the falls, where a dam with a thirty-foot head and a capacity of 30,000 horse-power was erected. From then until the day of his death Mr. Crocker worked hard for the prosperity of the new town, spending large sums of money in promoting its interests and sparing no effort to enlist the aid and interest of other capitalists and manufacturers. Incomplete as was his work there, Turners Falls owes its existence as a town to him. He

was a director of the Keith Paper Mill there, in the Montague Mills, and in the Turners Falls Pulp Company. He was also instrumental in inducing the removal of the John Russell Cutlery Works, of which he became a director, from Greenfield to Turners Falls. He organized and was president of the First National Bank of Turners Falls, now the Crocker National. He was active in organizing the savings bank, which has been named for him "The Crocker Institution for Savings." Charles T. Crocker succeeded his father as director of the national bank and trustee of the savings bank.

But we must turn back for a space to review the great fight of his life, which began with his proposition for the Hoosac Tunnel, sarcastically known as "The Great Bore," and continued through a period of most bitter and vitriolic opposition under the leadership of Francis W. Bird of Walpole, but finally to be crowned with the successful opening of the Tunnel at the end of twenty-eight years.



CHARLES THOMAS CROCKER

CHAPTER VI

THE HOOSAC TUNNEL ROUTE

AFTER the completion of the Fitchburg Railroad had been effected, Alvah Crocker might well have been content to rest on his laurels. Nevertheless, in full appreciation of all the difficulties involved, we find him already pushing forward by means of the Vermont and Massachusetts Railroad towards his ultimate goal, a through connection to the West via Northern Massachusetts. Ahead of him lay a struggle of titanic proportions, and with all his foresight he could not have anticipated the gruelling contest of twenty-five years against the combined opposition of man and nature, one scarcely less obstinate than the other. We refer to the construction of the Troy and Greenfield Railroad through the base of Hoosac Mountain.

In 1848 a petition was entered in the Massachusetts Legislature for authority to construct a railroad "commencing at or near the termination of the Vermont & Massachusetts railroad at Greenfield, thence running westerly to some point in the town of Williamstown at the state line."

Simultaneously there was pending in the New York State Legislature a petition for authority to construct a railroad from Troy to the state line of Massachusetts. The avowed objects of these petitions was the establishment of a line of railroad from Troy to Greenfield. The Western Railroad (now a part of the Boston and Albany), jealous of its monopoly of Western traffic, appeared in opposition. Its objection was based on the disastrous competition which it was claimed would be created. It was argued that the Commonwealth was as vitally interested as the road, to which it had loaned \$1,000,000 and from time to time aided with scrip amounting to \$4,000,000. The road had been opened from Worcester to Springfield in 1839, and completed to Albany in 1842, having paid on the average a dividend of six per cent. to its original subscribers.

Finding the facilities of a single track inadequate, it was represented that a policy had been adopted of laying a second track towards Albany as fast as earnings of the road should permit the payment of a four per cent. semi-annual dividend. The legislature was beseeched to consider what the effect of the proposed lines would be upon existing lines equally beneficial to the public. No reasons were left unmentioned that could

contribute to the impression that a new line would be not only superfluous, but also dangerous to the success of the existing road.

The committee was split in two by the arguments, four against three. The majority report agreed with the arguments of the remonstrants. The minority, however, found in favor of the proposed line, citing among their reasons the following:

1. The water-power throughout the section to be traversed was abundant for various manufacturing purposes. 2. Evidence was given of the existence of manufacturers of woolen, cotton, iron, woodenware, leather, marble, lime and lumber on both sides of the Hoosac Mountain. 3. Elements of great freight were proven to exist fifteen to twenty miles west of Greenfield, such as soapstone quarries, serpentine quarries, hematite, etc., and extensive forests of timber needed for the chair factories were also shown to exist along the route.

Furthermore, it was demonstrated that the distance between Boston and Troy would be nineteen miles shorter than over the Western line, and six miles less to Albany. Also it was made evident that the facilities and service of the latter road were so inadequate as to discourage business already obtainable, but which was being diverted via New York.

The Tunnel route was considered to be feasible by Engineer Edwards, at an estimated cost of \$2,000,000. In conclusion it was found that "State policy requires that just and equal privileges should be granted as far as may be to the citizens, and no section should be depressed that another would be elevated. It never could be fairly claimed that the Western road was to be the only avenue to the Hudson. Col. Loammi Baldwin, a distinguished engineer appointed twenty years ago to survey and report, favored a route now occupied by the Fitchburg and Vermont. The representative of Northern Massachusetts would never have favored State aid to the Western railroad to the exclusion of similar assistance to the Northern route at a later date." Indeed, Alvah Crocker himself had voted in favor of the aid that those who had enjoyed sought now to deny his own enterprise.

Fortunately the report of the minority was decisive, and the petition was granted by the legislature. On February 9, 1848, the act to incorporate the Troy and Greenfield Railroad was passed in the following words:

Be it enacted by the Senate and House of Representatives in General Court assembled and by authority of the same as follows—

SECT. 1. George Grinnell, Roger H. Leavitt, Samuel H. Reed, James E. Marshall, Henry Chapman, Alvah Crocker, Jonas C. Heartt, Abel Phelps, Asahel Foot, Ebenezer G. Lawson, and Daniel W. Alvord, with their associates and suc-

cessors are hereby made a corporation by the name of the Troy and Greenfield Railroad Co. with all the powers and privileges, etc.

SECT. 2. Said company are hereby authorized to locate, construct, and maintain a railroad, with one or more tracks, from some convenient point on the Vermont and Massachusetts R.R. at or near the termination of said R.R. in Greenfield, through any or all of the following towns, viz.; Greenfield, Deerfield, Conway, Shelburne, Buckland, Colerain, Charlemont, Hawley, Rowe, and Monroe, in the Co. of Franklin, and Savoy, Florida, Adams, Clarksburg, and Williamstown in the Co. of Berkshire to some point on the line of the State of N.Y. or of Vt. convenient to meet or connect with any railroad that may be constructed from any point at or near the city of Troy, on the Hudson River, in the State of New York.

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SECT. 7. The legislature may after the expiration of 5 years from the time when such R.R. shall be opened for use, from time to time, alter and reduce the rate of toll or profits upon said road; but said toll shall not be so reduced, without the consent of said company so as to produce with said profits, less than ten % per annum upon the investment of said company.

The outlook for the future was depicted in part as follows in the fourth annual report of the Vermont and Massachusetts Railroad, signed by Alvah Crocker:

TROY SURVEY

As the road to the Hudson by this line has progressed, and the portion to be built diminished by the extension of the Fitchburg & Vermont & Mass. roads, the public mind has manifested a strong desire to obtain positive and authentic information of the adaptation of the country for such a thoroughfare. Under an appropriation from the Fitchburg and Vermont & Mass. Roads with the city of Troy of \$3000, Mr. Edwards, an engineer of great talent and skill, has been employed to find the best route and summit by which to pass the Green Mts. (irrespective of all local interests) to the city of Troy.

When we consider that the rich and increasing products of the Great West are unable to find vent, without expensive delays, by any existing transportation, and that the state of New York is still granting further facilities of communication to this immense traffic by new railroad avenues and by widening the canal, no one can fail to be impressed with the importance of constructing a road of the greatest possible capacity, which the best ground, aided by all the skill, experience and engineering talent which can be brought to bear upon it, will permit.

The benefits will be great, beyond conception to all trade centering upon Troy and Boston, while the country between these points, so long neglected (especially the northern part of this Commonwealth) will reap the same advantages it has so freely contributed by its votes, to give the Southern portion thereof by the Western Road.

In 1851 the new corporation appealed to the General Court for a state loan of \$2,000,000.

It is not surprising to find the Western Railroad appearing again in remonstrance, as another opportunity presented itself of blocking competition. The committee to whom the petition was referred, after hearing both parties, found in substance that the West was the undoubted granary of the United States. On the Erie Canal were transported to Albany in 1850, 2,500,000 tons of freight, a large portion seeking the Atlantic. Of this amount the Western Railroad hauled but 60,900 tons to Boston. How much the road discharged *en route* does not appear but at least 2,000,000 tons remained untouched by the Western road, a considerable portion of which was destined to various parts of New England. Much of it came by water to Boston and was redistributed from that point.

Regarding the feasibility of the Tunnel, it was shown that tunnels in England varying from one-half to three and one-half miles in length and one in France four miles long had been constructed on an average cost of less than five dollars per cubic yard of excavation, including the expense of erecting the required masonry; hence it was supposed that the 350,000 cubic yards of excavation requisite to bore through Hoosac Mountain would at a maximum not exceed \$1,750,000.

Mr. Edwards's cross-section plan of the Tunnel was submitted, and by the longest line and highest cost the estimate came to \$2,000,000. Other engineers concurred, and their estimates seemed the more conservative in view of recent improvements in drilling methods. Still more conclusive appeared the willingness of contractors to undertake the work at the estimated figure, under their belief that progress could be made at the rate of ten linear feet per day. This would have meant the completion of the contract in 1,000 to 1,500 days.

The connecting forty-two miles of railroad would require, according to estimates, a capital of \$1,500,000, which added to the cost of the Tunnel would bring the total investment to \$3,500,000. In addition to this a guaranty was to be produced from the Vermont and Massachusetts Railroad, that it had spent in constructing its seventy-six miles of tracks, including its branches, \$3,500,000. From this sum must be deducted a mortgage of \$1,000,000. This entire property was pledged as security on the loan, a still greater pledge than was required of the Western Railroad.

When the new petition for state aid was brought before the legislature in 1853 by the Troy and Greenfield Railroad, its old enemies appeared again in remonstrance. The State House halls rang with arguments ranging from serious reasoning to fiery sarcasm. An amusing example of

the latter is to be found in the following excerpt from the speech of Ansel Phelps, Jr., counsel for the remonstrants before the Joint Counsel for Remonstrants, Special Committee of the Legislature, on the petition of the Troy and Greenfield Railroad for state aid April 6, 1853:

"The discussion of this very matter of a tunnel $4\frac{1}{2}$ miles long through the Hoosac in one place or another has occupied months of my life. I have passed weeks before committees, talked weeks, written weeks, dreamed weeks, all about this tunnel. I have in imagination after the lapse of several generations revisited the earth and seen the remote descendants of the present generation hard at work somewhere near the bottom of shafts 1,000 to 1,500 feet deep, and heard people along the line of the Troy and Boston road encouraging themselves with the hope that sometime in the course of the next generation their descendants would see daylight through the Hoosac Mountain, while the State Auditor annually reported the amount of debt and interest due from the Tunnel, and grave legislators were of the opinion that their ancestors had made a *very permanent* if not a very profitable investment. It may be said that 'this is the stuff dreams are made of,' but I submit to the committee that, fancy aside, I have had sufficient actual work as connected with this tunnel to warrant me in remarking that anything relating to it has an ancient, fishlike smell."

In spite of all opposition, the legislature, convinced by the arguments and assured by the guarantees of the petitioners, passed the act granting \$2,000,000 for the completion of the Tunnel. Contracts were made with E. W. Serrell & Co. in 1855 and 1858, and two others with Herman Haupt & Co. in 1856 and 1858.

Obstacle succeeded obstacle, but nevertheless, more than one-twelfth of the Tunnel was excavated. Finally in 1861 serious difficulties arose between Haupt & Co. and State Engineer Whitwell as regarded the payments on instalment from the state loan, culminating in the abandonment of the contract. Much work had been done at both entrances of the Tunnel. The east end heading had been driven 2,400 feet, the west shaft sunk 325 feet to grade and 56 feet tunneled from its base, while 610 feet had been excavated from the west entrance.

During the succeeding years, bitter strife was waged over the Tunnel in the Massachusetts Legislature. Pamphlet after pamphlet favoring complete abandonment of the scheme, as wasteful and hopeless, was issued by Hon. Francis W. Bird of Walpole, under such titles as "Our Theseus," "The Modern Minotaur," "The Road to Ruin," etc.

Delayed but never discouraged, Alvah Crocker continued his mag-

nificent fight for the Tunnel, culminating in his great speech in the Senate of Massachusetts, April 15, 1862, on the Bill for the more Speedy Completion of the Troy and Greenfield Railroad.

As a text to his remarks, he quoted from Lord Bacon—"There are three things which make a nation great and powerful—a fertile soil, busy workshops, and easy transmission of men and commodities from one place to another"—and from Calhoun—"Let us make permanent roads; not like the Romans, for subjecting and ruling provinces, but for the more honorable purpose of defence, and connecting more closely the interests of various sections of this great country."

Particularly addressing himself to those of his opponents who were opposed to the resumption of work on the Troy and Greenfield or Tunnel Road, he opened with a brief summary of the origin and history of this Northern Trunk Line, with a view to showing "what causes have so influenced public opinion, and to such an extent as to cripple and almost ruin us."

As early as 1835 a thoroughfare to the West by the way of Fitchburg had been agitated, and partial survey was made. Alvah Crocker was a member of the legislature when the rival proposition of the Western Railroad was propounded, and an appeal was made for state aid, after all other attempts to initiate the route had failed. He now reminded his hearers of the appeal of the late Judge Kinicutt to "some twenty-five of us who were supposed to hold the balance of power." "Assume, if you please," said the Judge, "that your route is better than the Southern or the Western one; if you are willing to identify the Commonwealth with such enterprises, you establish a precedent, and the Commonwealth, to be just, to be consistent with herself, must aid you in like manner. Nay, every other section. She will never be partial, as you suppose, but fair to all. She will certainly go as far as she safely can, to develop and increase her growth." To this line of persuasion the Northern members had yielded, but as Crocker pointed out: "I suffered among my then constituency for that vote. I had joined in 'mortgaging their farms to build a railroad'; but I never regretted the act. I was also one of a committee of investigation about its doings in 1843, stood by the road then, and have ever done so to this day." This broad-gauged co-operation counted but little with the interests of Southern Massachusetts when Northern Massachusetts came before the legislators with a similar petition, but, said Mr. Crocker, "I do not, Sir, complain of this liberality to Southern Massachusetts; it was not only wise, but necessary, owing to the sparseness of the population beyond Springfield, as it is now to pass this bill to aid the towns beyond



EAST END OF THE HOOSAC TUNNEL DURING CONSTRUCTION

Greenfield. Neither line could be accomplished without such aid. Nor will I forget in this connection the opinions and advice of that sound and practical man, Loammi Baldwin, Esq.—immediately prior to the legislative session of 1836, in a visit to him at his house. ‘You have got the route from Boston to the West, but your population is sparse through your whole line. You have no influential and wealthy towns like Worcester and Springfield to sustain you in the tunnel effort, and you had better not attempt it. *You do not know what you are undertaking.*’ If I did not then know, Mr. President, I soon found out, on applying for the Fitchburg charter, precisely what talent and influence could do, in the language of the Senator from Norfolk [one of his chief opponents], ‘to manufacture public opinion’: ‘Sir,’ said the Senator from Hampden, ‘a six-horse stage coach and a few baggage wagons will draw all the passengers and freight from Fitchburg to Boston.’ ‘I know the country,’ said Mr. Mills, ‘a miserable, narrow strip, between the Lowell and Worcester roads, and if these two corporations could but have time they would crush this effort out.’ . . . So also, thought Mr. Hale, of the *Advertiser*, concerning the first section. He, Sir, brought his high character and influential paper to bear on us, as he does now, on this third section, in the bill on your table; but he too, Sir, has lived to see the first section carrying more freight until the last year than his darling Worcester road.”

Untinged with bitterness, he continued the cold, straightforward recital of the endless sectional opposition from the winning of the charter in 1848 through the history of the Tunnel since the charter. The character and performance of Herman Haupt, the first engineer employed, was stoutly defended—the necessity for the new route was forcibly pointed out. The inability of the Western road to serve the needs of Boston was illustrated by the remark of a Chicago man: “Your Western road may be a very good road, but you do not run in connection with our lines, and charge altogether too much fare to expect our trade. Boston is fast becoming to New York what Salem is to Boston”; to which Mr. Crocker added: “While prices of freight have remained nearly stationary on the Western road till since the agitation of this question, they have been regularly reducing on the New York and other routes; thus turning it *around* instead of *through* the State. The consequence is that Boston is fast losing her export trade, as is shown by the returns in the last five years . . . showing a falling off of nearly 50 per cent . . . while New York has increased.” The present predicament of Boston, handicapped by freight differentials, seems to have had its duplicate in the early sixties, and Mr. Crocker’s words apply to-day with the same force as when he uttered them. “Ought

we not to change the above status? Can we not do it? Have we not all the elements to do it with—cotton domestics, woolens, shoes, woodenware, etc.? We can if we will keep our manufactured goods, until sold, by giving the West a quick and cheap avenue to reach us. Money and trade will always go where it can find the greatest quantity for the same cost; no matter what the name of the city is.

“Breadstuffs or corn . . . will follow trade, while every million of dollars we add to Boston we add to Massachusetts; every million of dollars we add to the taxable property of Northern Massachusetts by new sources of business proportionally increases Boston. Will she now, in the last effort to build the Tunnel, turn against us?”

The speech then turns once more from argument to the plain facts of the advantages offered by the new route—the shorter haul, the lower grades and consequently the greater economy of operation. The wants of the towns along the line are briefly sketched. The benefits to be derived are illustrated by the history of the benefits to Fitchburg from the first section of the road. Under its stimulus the town's valuation of \$939,342 in 1840 had increased in 1860 to \$3,714,437, and its population from 2,500 to 8,000.

The speech is concluded with the following stirring appeal to justice: “Do you not wish to place us on a footing with our sister sections? What have we done to be pursued with such bitterness, virulence and hate? Have we not as sacred claims upon our parent Commonwealth, as Springfield and Pittsfield, or any other section or municipality? Has our loyalty ever been less? Where, Sir, does this tunnel road start? Under the shade of what monument? What battlefields does it course? Where is Lexington and Concord? Upon what line sleeps the dust of Davis, of Hosmer, of Prescott (who commanded at Bunker Hill, if any one did), all born and reared here, Sir? There is hardly a town upon the first section of this road which did not pour out its blood, mingling it with Essex, upon these battlefields, like water: Acton, Littleton, Lancaster, Groton, Pepperell, Leominster and Fitchburg.

“Where, too, Sir, was Groton, was Lowell, the 19th of April last past? Sir, I say nothing in the way of boasting. Simple justice, I ask; only simple justice; but I go back to the Revolution again. It is history that the towns of the second and third sections of this road followed up the Deerfield upon this tunnel route, to join Stark, Warner and Robinson, in what turned the tide in our War of Independence, the battle of Bennington, so called, though it was fought in Hoosac upon the line of this very road in New York, giving by its results, to us, in the taking of Burgoyne,

England's rival, Bourbon France. Mr. President, the noble men of this very Northern Massachusetts passed up this very Deerfield River now under discussion to-day—over this very mountain, nay, over this very tunnel, to fight the battle of Hoosac at the mouth of the Walloomsac, as pointed to several Senators last week.

"There, Sir, sleeps Captain Joslin of Ashburnham, who was the first to fall by Baum's muskets, with his comrades. Sir, this is a consecrated line. It is the Mecca for Pilgrim Patriots, as this tunnel will soon be the perpetual memento, the rich legacy to our children, of what Massachusetts could do in the spring-time of her history. It goes straight to Stillwater and Saratoga—*thrilling, soul-stirring words*—where New York and Massachusetts mingled upon one common altar their patriotic blood. The question to-day, this hour is, Shall these two peoples draw each other together more closely, in business, in friendship, by this low-graded iron river? The land of Schuyler, of Fulton, and Clinton (dignified in their day, too, as being great humbugs and swindlers, though I never heard of their being called 'myths') joined again with the land of Prescott and Warren. Sir, is Northern Massachusetts loyal now? Do we now withhold our life's blood or our hard earnings—harder, nay, vastly harder for want of railroad facilities? Should the State hiddle with us; stop this work, to be her future pride, about a slope, or an embankment, or a stick of birch or maple, and that too on a temporary structure, when you have only paid out to us, under a first mortgage security, one of the greatest lines in New England, or in the country, if accomplished, \$725,000, when everybody knows that in 1843 both spruce and hemlock were used on permanent bridges on the Western road, in the Pontoosuc Valley, a road to which Northern Massachusetts not only cheerfully voted five millions, but without interference or complaint. This timber was like the trestle bridging, the best that could then be used, until the road was done so as to draw better, from other sources. Even if it were not, what business had we with a Springfield road? What business have they with ours? Do they want to build us some more Athol bridges, or Troy depot buildings, by now breaking down our own contractors? Sir, I have heretofore said that New York and Massachusetts are now, as they were in the Revolution, not only contending together to defend the best government that God in his mercy ever gave to the children of men, but are also contending against one of the greatest physical obstacles, destined to produce in its fruits, some of the greatest physical results and moral blessings.

"Roanoke and Newbern, like the old battlefields, have again blended us together from Troy to Boston, with their fresh and bloody sacrifices,

new mangled victims and martyrs for free government. But, Sir, I will not dwell longer. Allow me now but one more single thought. Massachusetts is small in territory, her soil is sandy, sterile, rockbound; compare her with her sister States west of her, either in territory or in many of the elements of growth, she pales away almost to insignificance, but for her race of men. If you would have her maintain her high position, her noble pre-eminence and prestige, her present influence in our national councils, you must give to her every section, North as well as South, the best facilities for a full development of her resources, the means for the quickest transit and intercommunication, grappling with any and every obstacle which stands in the way, or in any way bars her from sustaining the most dense, active, industrious, and therefore virtuous population."

The outcome of the struggle was the seizure of the Troy and Greenfield Railroad by the State, including the Tunnel, in 1862, and the appointment of a commission to examine and report on the work at the legislature of 1863.

The commission recommended the prosecution of the work by the State. In October of the same year Thomas Doane became chief engineer and resumed operations where Haupt had ceased. The old bore at the east end was made available by cutting it to the required size, and work was commenced on the central shaft.

Progress was painfully slow until 1866, when machine drills driven by compressed air were substituted for the old hand drills. This important invention was brought out by Charles Burleigh of Fitchburg. At once the progress was speeded up from a rate of about 49 feet to 115 feet per month, and Alvah Crocker characterized the drill as "a monument to the genius of Mr. Burleigh and a credit to Massachusetts."

In January, 1868, Mr. Crocker, who had become commissioner in charge of the work and had also acted as superintendent for six months, submitted an interesting report covering the years since 1865. From this we glean many interesting facts and gather some striking additional examples of the characteristic workings of the practical mind of its author.

He gives great credit to the chief engineer for his unremitting efforts, "his industry and fidelity," and never seeks to magnify his own actions, which he relates in the simplest manner. Referring to the important introduction of nitroglycerin, he says: "As long ago as February last I visited New York, and spent several days in endeavoring to ascertain if this article had been made there or in the vicinity, but to no purpose. Finding subsequently that the railroads refused absolutely to transport it, the matter rested until the first of July, when I addressed George W.



WEST END OF THE HOOSAC TUNNEL

Looking northeast from the original surface level. In the background of the picture are the west shaft shanties which were occupied by workmen.

Mowbray, Esq., of Titusville, operative chemist, and with the permission of the commission he was called to North Adams and a contract concluded with him highly advantageous to the Commonwealth. The price for which Professor Mowbray was to furnish a pure article was eighty cents a pound. As the commission did not see fit to ratify the agreement, I turned over the same to Messrs. Dull, Goway & White. After waiting until November, and finding the contractors had done nothing, I again arranged with Professor Mowbray [as will appear in the appendix], from which the public will be gratified to learn that we are on the eve of giving it a fair trial."

It is not alone in the work problems that Alvah Crocker's methods awaken our admiration. His genius for detail he carried to every department under him. We find, for example, that when he accepted the office of superintendent it was upon condition that the Boston office should be abolished, for by the system adopted by the old commission "the pay roll and accounts being approved by the engineer or superintendent, the cashier took them to Boston each month to be certified by the commission . . . more than one hundred and fifty miles distant. The cashier's expenses while away were very considerable, amounting to several hundred dollars annually."

About this juncture the most disheartening difficulties were encountered in the shape of "demoralized rock" which when exposed to the influences of air and water ran like quicksand. In 1868 the State stopped work, having carried on the excavation to a distance of 9,338 feet, and leaving 15,693 feet still uncompleted.

Mr. Latrobe, the consulting engineer, urged in his report for 1867 that the work thereafter should be performed by contract. This question came before the legislature in the form of a bill which was enacted into an authorization for a contract, providing the entire work could be completed in seven years. The contract was at last awarded in 1869 to Walter and Francis Shanly of Canada for \$4,623,060.

The greatest credit is due them for the energetic way in which they pushed the work "until on Thanksgiving Day, November 27, 1873, at a distance of 10,134 feet from the west portal and of 2,050 feet from the central shaft the headings of the Tunnel met, with a variation of but nine-sixteenths of an inch. The last blast was discharged at about three o'clock in the afternoon. Before the noise attending the terrific explosion had died away, a line was formed with Mr. Shanly at its head and slowly advanced to the ragged opening, when Mr. Shanly courteously stepped aside, inviting Senator Sylvander Johnson, chairman of the Hoosac Tunnel committee, to be the first to pass through." It seems a pity that Alvah

Crocker could not have been in Mr. Johnson's shoes, although he later had the pleasure of riding through the Tunnel on the first locomotive to make the passage. The first passenger train did not pass through the Tunnel until February 6, 1875, nor was Alvah Crocker destined to live to see that day.

According to the report of the joint special committee on the Hoosac Tunnel and Troy and Greenfield Railroad for April, 1877, the Tunnel and its approaches cost the State more than seventeen million dollars, and over twenty-five years were occupied in its construction. One hundred and ninety-five lives are said to have been lost in the course of construction. Subtracting the sinking fund of the Troy and Greenfield Railroad, the actual cost to the State of the Tunnel alone was \$14,282,273.73. In 1887 the Tunnel and the Troy and Greenfield Railroad were sold to the Fitchburg Railroad for \$5,000,000.



1876
 Fitchburg, Mass., from Rollstone Hill

VIEW OF FITCHBURG, 1870

CHAPTER VII

CONGRESSMAN CROCKER

IN politics Mr. Crocker was a Whig, but after the demise of that party he became a loyal Republican. In 1872, the late Hon. William B. Washburn having resigned from Congress to become Governor of Massachusetts, Alvah Crocker was elected, on January 2, to complete the term. At the time he had no knowledge of the affair, being absent in Europe, where he had taken his wife in the hope of restoring her health. Mrs. Crocker, who was Miss Lucy A. Fay of Fitchburg, had been married to Mr. Crocker April 9, 1851. She was the sister of Mr. Crocker's partner, George F. Fay. Her protracted illness and death in January prevented him from taking his seat until July 2, 1872, on which date the oath of office was administered.

To the discharge of his political duties Crocker brought, in the words of Congressman Dawes, "the same enthusiastic zeal which characterized his every undertaking. He was nevertheless no partisan, and always followed his convictions rather than his party. He came into Congress late in life, and was not permitted to remain long enough in his work here to leave that personal or permanent impression upon the administrative policy or legislation of the country which experience often brings to the share of others. But he was not idle here,—he could not be idle anywhere. In the committee-room, as well as upon the floor of the House, and always in consultation, his practical knowledge and wise counsel were invaluable, while his genial disposition and flow of conversation made him a general favorite. It was truthfully said of him, 'He went directly at a thing in Congress as he would in his own business affairs, and in an earnest, homely way they were little accustomed to witness.'"

At the time when Mr. Crocker's name was placed in nomination for a second term after his brief service of about three months, a letter signed "Vincent" appeared in the Fitchburg *Weekly Reveille*, September 19, 1872, which is worth quoting in part:

When a man has devoted years to the accomplishment of an object, and has persevered when little inducement was offered him but an honest desire to act for, and to contribute to the public good, we may confide in him any trust with a safe conviction that he will never prove himself recreant thereto. Such a man is

Alvah Crocker. Though the highest confidence has often been reposed in him, it was never done but the more clearly to reveal how incorruptible was the man. If this be so of his business affairs, why should it not be likewise while representing his constituents in Congress. . . . A chief argument in favor of Mr. Crocker is that he is a business man, and one that deals with theories, only as a prelude to the practise to which they are always put as a test of their soundness. All the business transactions of his life, the eminent success with which his labors have been crowned, illustrate the very point we would urge—that his theories have always been safe and sound. . . .

Mr. Crocker makes a wise and judicious disposition of his wealth. He invests in such a manner as will tend to enrich the community, affording employment to the laborer and furnishing the necessities of life at perhaps a cheaper rate than could otherwise be obtained. We need but glance at the thriving town of Turners Falls to be convinced of the intelligence and correctness of Mr. Crocker's views regarding the relation of labor to capital. . . .

In sending Mr. Crocker to complete an unexpired term in Congress, the people testified their profound gratitude for his efforts in their behalf. They honored themselves by honoring him. Brief as was his experience he gained a name in the committee rooms of the House for a soundness of judgment, and an earnestness and vigor in asserting his views. Like his honored predecessor, Governor Washburn, he took little part in the wordy and profitless debates in the House itself, but devoted his entire attention to the real business at hand, and in deep recesses of the committee room was he to be found engaged. His short term of service expiring, he returned home to his business which had suffered by his absence, and which he had left only at the call of the people.

Perhaps very few of his constituents are aware how much he accomplished in so short a time, but that he remained at his post in Washington until his affairs were all adjusted is sufficient evidence that he clung to his established business principles under the pressure of Congressional cares and duties.

We advocate the return of Alvah Crocker to represent us in Congress. Let him be returned as by a single voice for a *full* term. In no other way can our deep sense of obligation be shown. In no other way can we testify our satisfaction with the manner in which he has already represented us. Let the people again unite on his name.

Apparently this admirer was reflecting the widespread sentiment of Mr. Crocker's constituents, for he was re-elected to the Forty-third Congress by 14,919 votes against but 4,588 for the Democratic candidate. He fully justified the confidence of the people. Governor Washburn said of him: "When he entered upon his duties here he was over seventy years of age, and much of the time his health was so impaired that it was with difficulty that he attended to his official duties. In public as in private life he was strictly honest. He discharged all his duties in a most con-

scientious manner. No jobbery or corruption was ever traced to his door, but his entire record stands above suspicion."

Mr. Wadleigh of New Hampshire only corroborated all the testimony above, when he said of Mr. Crocker, "He always manifested good sense, sincerity, praiseworthy fidelity to the interests of his constituents and enlarged patriotism."

So much for the man as he appeared in public life, from the point of view of reliable contemporaries. Still greater interest attaches to his utterances in the House of Representatives, for in reading them we feel a sense of first-hand acquaintanceship. During the early days of his service in the House, much of his work was the presentation of various petitions of his constituents, among which it is interesting to note those of E. Murdock and fourteen other citizens of Winchendon, and of Rodney Wallace and twenty-three firms and individuals of Fitchburg, for reform in civil service.

The first remarks of Mr. Crocker in Congress appear on page 1814 of the *Congressional Globe*, 42d Congress, 2d Session, 1871-72, Part II. They have to do with the post-office appropriation bill, which Mr. Crocker wished amended so that "in the event of war the vessels of the line may be taken possession of by the United States Government for the exclusive use and service of the United States, subject, however, to such remuneration and pay for the same as said government should deem just and equitable."

In speaking to the question Mr. Crocker said—"But for a moment, Mr. Chairman, shall I crave the indulgence of the House. In looking over the bill it did seem to me there should be some safeguards thrown around this appropriation if it should take place. It did seem to me, sir, that this whole House, that each side of this Chamber, would agree to that. But I do not propose at this time to discuss the merits of this bill at all, but only to bring this matter before the House. It is always when we make a bargain, if it be made, that the thing should be perfectly understood on both sides. This will place this matter fairly before any corporation which takes an appropriation of this sort.

"Now, sir, it has precedent, if not in this country, in England. In England her steamships are under the control of the Government. There are thirty-two, to my certain knowledge, in the Cunard Line alone, running east and west, which can be converted at any time into storeships, carrying troops, or into men-of-war. This is the practice followed there, and it is so understood and written in their laws. I am fresh from that land myself, Mr. Chairman, which floats the flag of St. George, and while

there I heard mutterings, over and over again, like this: 'Very well; if there is any disruption of the peaceful arbitration in reference to the Alabama claims, we will take a more speedy mode with our steamers and our great navy; we will take a more speedy mode of settling this thing.' Mr. Chairman, that was the saying I heard over and over again, that they would take a more speedy way of settling the difficulties. I am done. The amendment speaks for itself, and I have nothing more to say."

The amendment with an addition prepared by Congressman Sargent of California was agreed to—ayes 90, noes 56.

Mr. Crocker seems to have been particularly effective in debate on the tariff, for it is here that he draws with so much force and conviction on his personal experience. The following remarks concerning the proposed tariff on coal and soda ash and bleaching powder reveal his knowledge, as well as a pardonable pride in his various business enterprises.

Congressional Globe, 42d Congress, 2d Session, 1871-72, page 3208:

Mr. CROCKER. I have listened, Mr. Chairman, with no little interest to the remarks which have been made on the other side of the House in relation to this matter of coal. I heard my excellent and eloquent friend from Indiana [Mr. Kerr] while he expressed his views on the subject. That gentleman informed the House that all parts of this country were blessed with coal. I can tell that gentleman that there is one part of the country, that part of the country to which I belong, although a very small part of it, which has no coal at all or any expectations of ever finding it as long as we live. It is a primitive formation there, and I tell the gentleman that we have no hope whatever of ever finding coal.

In connection with another portion of that gentleman's remarks, I beg leave to tell him that with the duty as it is they can bring coal from New Brunswick and Nova Scotia into our country, where we consume more than twenty-five thousand tons a year, more cheaply than from any coal field in this country. I care not about monopolies who are charged with committing a great and startling plunder upon the pockets of the people, but I go for a dollar, and I go for it for this reason: I take the eloquent words of the gentleman from Indiana that there is coal enough in this country. I take him upon his own ground, that there is coal enough in this country for years and years to come, and for that reason I go for the dollar. Ay, sir, and I would go for a dollar and a quarter if necessary. I look ahead. I am not looking merely for the present. I know that if we occupy that ground it will be as every other thing that is produced in the country, the price will be reduced in the end.

If the gentleman is right in his premises, and I agree that he is, and I honor him for his statement; if he is right in his premises, and we have coal enough, ay, coal enough to last until the trump of resurrection shall sound, then let us encourage the production of it here, the bringing of it out of our mines, and not give that

benefit to any outside party whatever. I am an American in every sense of the word. I will cheerfully give protection to coal until we get the price of it down below where it would be if we imported it from abroad. I am, myself, using it in great quantities, and yet I will give cheerfully a dollar a ton protection until we can get it at home cheaper than from Nova Scotia. I talk against my own colleague, I know; I talk against my own State. But I hope this amendment will prevail.

Mr. Cox. . . . The gentleman from Massachusetts who has just spoken, in my estimation does not represent the prevailing ideas of Massachusetts as I gather them from the public journals.

Mr. CROCKER. No, I do not. . . . I rise to a question of privilege. I have been asked by some friends whether I do not own about two-thirds of a coal mine. I never owned anything of that sort. I have no interest in any shape in the production of coal; on the contrary, I have paid Pennsylvania and Maryland thousands and thousands of dollars, which I am ready to continue to pay if we can only induce competition so as to bring down coal to a proper level where it ought to be.

The necessity for protection to what were once called "infant industries" is well set forth in the following remarks of Mr. Crocker on the subject of soda-ash:

Mr. Chairman, I regret exceedingly myself that the duty upon soda-ash has been touched upon; and let me give my reasons in a single word. We have tried in this country, over and over again, to manufacture this article. Everybody within the hearing of my voice knows that soda-ash and bleaching-powder are kindred matters, and generally go together; they are generally made at the same works. Now, I have said that we have made repeated efforts during the last thirty years to manufacture these articles here, and every time we have made the effort firms in Great Britain, when they have found that we were making the article—and I undertake to say that we made a better article in Maryland than is made anywhere else—instructed their agents here to put down the powders until you have broken down the American manufacturers. Now, I use this article, by the ton every week, and I say that they have done that over and over again when we have attempted to manufacture the article, and they have broken down the manufacture here; and after they had broken down the Baltimore works, where they had made better bleaching powder than elsewhere, and have broken down the manufacturer after he had invested \$100,000 in it, they then put up powders. Our friends in England are supremely careful of their own interests.

What is the United States paying for this article now? We are paying a hundred per cent. more for them than they really are worth. We are paying for bleaching-powders today, or were the last time I had news from home from my own mills, and I have seven of them, six cents a pound, when, if we extended the shield of protection over these articles as we did before, we should be paying no more than three cents a pound in currency for a better article. I said I had seven mills, but

do not be alarmed. Paper is not the only thing I make, by any means. I make more money out of my farm than I do out of anything else.

In the Appendix to the Congressional Globe of the Forty-second Congress, Second Session, 1872, page 363, we come across one of the most interesting speeches Mr. Crocker ever made. It is concerned with that "hardy annual"—the tariff. Showing as it does his attitude towards labor, his appreciation for the desirability of subsidizing our merchant marine, it is as interesting to-day as when it was written. The prophecies it contains of the future of the South as a manufacturing factor have now largely been fulfilled, and are illustrative of the foresight so characteristic of the man. Above all does his broadmindedness appeal to us in this speech. Although he never used tobacco, he would abolish the oppressive internal imports on the great products of Virginia and Kentucky, tobacco and whisky. He never seems to look at any problem from a sectional point of view. It was the good of the country as a whole which he sought. As he quite truly of himself said on another occasion: "The people in this country are all my constituents from one end of it to the other. I do not stand here for any particular set or class."

Mr. Crocker's speech is as follows:

Mr. Chairman, I commence with the assertion of this principle: that when we properly protect American labor in any manufactured article until capital, skill and American enterprise come fairly to its production, the article will become cheapened until it reaches a minimum level, lower than can be attained if the country is solely dependent for its supply upon the monopolies of Europe, even with its starved and beggared operatives; because so soon as the foreign producers can break down the manufacture in this country of any article, the price of that article will rise to the last mill of the dollar that they can wring out of us. Encouragement of domestic production, is, therefore, no less for the interest of American consumers than of American labor and capital employed in production.

But the great consuming class of this country are laborers also, and the interest of labor is the most important element in the protective question. Can the labor of this country contend unaided against the degraded labor of Europe? I speak of the degradation of labor in Europe, not from books, but from my own personal observation. I have seen, Mr. Chairman, two hundred women in a gang carting, or rather carrying, dirt in baskets strapped to their backs, to make railway embankments, the engineer saying to me he preferred them to men; they were more enduring. When stepping out from one of the largest factories in Europe with the superintendent at night I have met half-nude girls literally kneeling on the ground and praying "in the name of the Blessed Virgin" to have employment the next day at twelve sous daily. . . . In England, where labor is better paid than on the con-



COMPRESSED-AIR POWER PLANT, DEERFIELD RIVER

The building in the foreground contained the machinery which drove the drills, over a mile away, into the earth. On the hill just behind are Engineer Ellis's house and the office.

continent, I have seen fifty girls in a stifling room, half-naked, doing labor too revolting to name. At one establishment, where the female operatives were apparently well treated, one of them said to me: "We are too poor to marry. I have had four children out of wedlock. Thank God they are all dead."

Prostitution, the child of poverty, is brazen and rampant, while the poor rates are increasing every year. Even the noble bequest of our honored countryman, Mr. Peabody, who had a heart, and who for thirty years had seen the misery of the poor in England, is taxed, or rather the tenement buildings which he constructed are heavily taxed for poor rates—a shame and disgrace to England—while the estimable friend of this noble man, Mr. Somerby, of Boston, acting treasurer of this bequest, assisted by such men as Lord Derby, has assured me that they had been unable as yet to purchase land for further tenements to shelter the poor—to absorb the whole fund, a balance remaining of some fifty thousand pounds—because of the unmitigated curse of entail in England.

This is the country which some of us have been lauding on this floor, the country which destroyed our commerce by registered pirates, or compelled us to sell at its prices the proudest merchant marine that ever floated. We hear it asserted that the decay of our commerce is due to the protective policy, and that free trade will restore it. I dissent from this view. This decline is mainly the result of the transition from the old system of sailing vessels to steamships, through which latter, built up by mail appropriations and subsidies, the English are able almost to monopolize the carrying trade of the world. If you will pursue the same course before it is too late, and by that means place our merchants on a par with the English merchants, and let American energy and skill feel that on the ocean as well as on land their Government will stand by them, then our commerce will resume its ancient channels.

An intelligent manufacturer said to me in England: "We are compelled to adopt free trade because we are dependent for so large a portion of our raw material upon other countries; but we control the seas, and have the East Indies with a population of two hundred millions and suzerainty over some fifty millions more. We have Australia, the West India Islands, the Canadas, and by our quick steamers control their trade. We get our best sales at home; next, in the countries we control; then in South America; and the balance of the goods which you do not buy here, sometimes twenty to thirty per cent. annually, we send to New York and order them sold under the hammer."

But, Mr. Chairman, I must hasten to the manufacture which we have immediately under discussion. Sixty-two years ago this coming month, I was put into a paper factory at the tender age of eight years. I lived with my mother, without allowance for board, and worked twelve hours daily at twenty-five cents per day. My only remission from labor, with the exception of a single winter, was six weeks a year, when I was allowed to go to school. In the latter part of the first ten years of my factory life, compensation being somewhat increased, I had sixty dollars a year with my board. In the later years of my life I have been able

to employ the labor of others in the same manufacture. I mention these personal facts only to show that I have had a practical experience in the paper manufacture through a very long period, and speak with some authority.

Now, I assert, Mr. Chairman, from this personal knowledge, that with the exception of the period of the war of the rebellion and times of temporary droughts paper has been, under all your protective tariffs, receding in price and improving in quality. Cap paper, whether brought from England or made in this country, which cost in former times \$4.50 per ream, could of the same quality be bought for \$2.50 per ream, while the same prices of "hand-made" paper used when I began is in use to this day abroad where labor is cheap, both in England and on the continent. We have made improvements in machinery and processes under the stimulus of protection which have enabled us to reduce our own prices and keep down the prices of imported paper. I do not hesitate to say that paper will still recede in price if we maintain a wise system of protection. To show that I am not mistaken in this assertion I ask leave to insert a table of prices for the last five years, obtained from the Superintendent of your Printing Office, Mr. Clapp. This table shows a reduction of more than twenty-five per cent. within that period in the teeth of an export duty on rags in almost every country and an increased cost in feltings, wire, and in bleaching-powders and soda-ash.

SCHEDULE OF PRICES OF PRINTING PAPER, 24 x 38, OF DIFFERENT WEIGHTS, SIZED AND UNSIZED, AND WRITING

<i>Printing Paper</i>	1867 Cents	1868 Cents	1869 Cents	1870 Cents	1871 Cents	1872 Cents
45-pound 24 x 38, calendered, per pound	19.27	15.48	14.37	14.53	15.06	13.98
53-pound 24 x 38, calendered, per pound	23.85	17.40	17.47	16.88	16.78	16.49
45-pound 24 x 38, calendered, per pound	26	20	17½	17.30	17.62	16.62
Map Paper, per pound	29	19¾	17½	19	20½	18.92
Writings, per pound	30	23	21¾	22	21	20½
Engine-sized, per pound	21.74	18.48	16.23	15.44	15½	14.95
Tinted, calendered, per pound	—	—	—	17.90	17.65	17.12

Export duties on rags in the various countries of the world:

In Russia—ports in the Baltic and White seas and by land . . .	£6	4s.	7d.
Ports in Black and Azoff seas	2	1	8
In Sweden	2	9	9
In Norway (old rags)	3	16	6
In Norway (cordage)	1	5	5
In Denmark (rags)	2	6	3
In Holland (rags)	8	8	4
In Holland (cordage)	2	10	0
In Belgium (prohibited except through France)	4	17	2
In France (prohibited except through Belgium and Great Britain)	4	17	2

Let me call the particular attention of the committee to the important consideration that in reducing the paper tariff we do a great injury to the South and West, who are largely entering into this manufacture, the South especially; ay, sir, the South, my constituency, by my solemn oath, as well as the district whose votes have sent me here, now struggling to restore itself by diversifying its labor, needs the same tariff on paper which has given confidence to capital at the North to invest in this manufacture. The South, if sustained in its "struggle for life," is bound to be a great manufacturing people, not only in cotton and woolens, but especially in paper. They have the best of rags—that I know from my own observation; cotton waste, Kentucky rope, and every kind of raw material used in this manufacture. Contiguity to the paper factory raises the price of rags, and this is a boon to the poor families which produce them.

The great benefit to the South, however, from the introduction of this manufacture, is that the paper manufacture is a pioneer industry, and where one manufacturing industry has been introduced, others are sure to follow in its train. Labor is thus diversified. A portion of labor is drawn from agriculture, while the profits of agriculture are increased by new consumers. Why, in view of the present necessities of the South, should we of the East seek to disturb a tariff which has done so much for us, until it has done the same for them? I, for one, would rather buy as I am buying, through my house in New York, paper made in the mills of the Carolinas than the products of England and Belgium. While the cry from Virginia and the Carolinas is, "We are exhausted by a terrible war; help us, oh help us, to capital," why, why, I say, cut them down now?

But, sir, it is said we must cut down somewhere. Then I say abolish your internal taxes. What right have you to tax by your oppressive internal imposts the great products of Virginia and Kentucky, tobacco and whisky? I know, Mr. Chairman, that this is bold talk. Still, I repeat, what right have you to single out these articles, the chief products of these great States? You reply that they are injurious luxuries. I protest against the hypocrisy which makes morality a pretext for oppressive and unequal taxation. I have never used tobacco, but I can well conceive that to the soldier on the damp camping-ground, and the sailor in the wet fore-castle, the so-called luxury may be a necessity, as it is the chief solace of his hard life. Is not whisky something besides an injurious luxury? Who does not know that spirit is the basis of many of the mechanical arts, the solvent, for instance, of all the aniline dyes which ornament printed fabrics, and the basis of nearly all the medicines used in the healing art? You say that England derives her chief revenue from a tax on these two articles. Do you not know that she can afford to do it, because tobacco is not grown upon her soil, and she cannot raise the corn and rye for spirit distillation? If we had brains we would not, for the sake of imitating England, repress by taxation the increase of the two great products, tobacco and corn, of which we have the natural monopoly as distinctly as we have that of cotton.

Sir, abolish every internal tax; make free every article which our people can

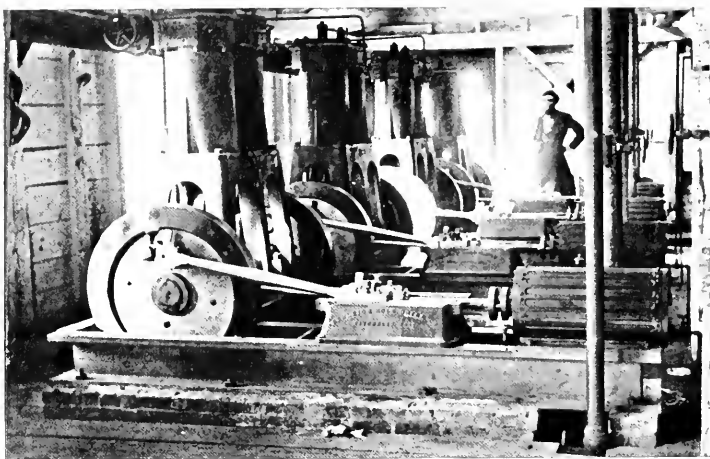
never produce; preserve the system of revenue which shall spread broadcast over the land manufacturing and mechanical industries; give to the South and West the same chance which we of the East have had for ourselves. When the countries on the other side of the water shall have abolished entail and feudalism, and abandoned the system of political economy which makes the welfare of the many subordinate to the wealth of the few, so that God's children shall have a fair chance on God's earth for tillage and enjoyment, then, sir, it will be time enough to talk about the vagaries and sophisms of free trade, and to take the countries of the Old World for our models.

The Republican doctrine of our own time that our duties should represent the difference between labor costs here and elsewhere was clearly foreshadowed in Mr. Crocker's premise that "the interest of labor is the most important element in the protective question." Who can deny that an honest adherence to this principle throughout the years would have gone far to save the Republican party from the accusation that it has been too often the friend of "special interests"? Our "hindsight" over and over again has been matched by his foresight.

With all the serious problems that surrounded his life and impeded his efforts, one might have expected that Mr. Crocker would have become a too serious-minded and stolid personality. On the other hand, we believe that not the least of his ability to overcome difficulty after difficulty sprang from his buoyant disposition and keen sense of humor. Indeed, he had more than a passive appreciation of fun, he could be humorous himself, and we find his speech on the salary bill, delivered December 11, 1873, fairly punctuated by the laughter of the House. Yet unlike many who have indulged in humor "on the floor," he did not sacrifice his influence by creating an audience which demanded to be amused rather than instructed or convinced. Behind his fun was a character too solid to be misconstrued.

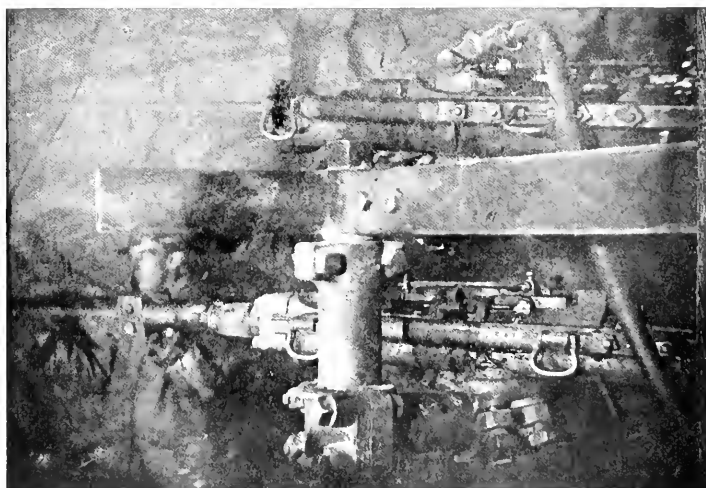
Congressional Record, 43d Congress, 1st Session, Vol. III, p. 161, December 11, 1873:

Mr. Speaker, I crave the indulgence of this Chamber for a few minutes. I had intended, if I got the floor at an earlier period, to treat upon this subject at some length; but in the present stage of the discussion, when it has been so completely gone over, and when men have gone clear back to the time of Christ, in search of information, I deem it my duty to do no more than to place myself right upon the records. I owe that much, at least, to myself, to the House, and to the constituency whom I have left at home and who have returned me here by an overwhelming majority.



STEAM-DRIVEN AIR COMPRESSORS AT WEST END OF THE TUNNEL.

These air compressors furnished power for driving drills 500 feet into the ground.



THE BURLEIGH DRILL AT WORK

The first interior taken of the Tunnel. The smoke in the picture resulted from the flashlight.

At the time the salary bill came up I deemed it inopportune. I did not think it was then a proper time to increase salaries. We had just gone through an interminable struggle to save the national life which had exhausted the whole country, North and South, East and West, and I did not feel that it became us to yield to any increase of pay whatever. I opposed it at that time in season and out of season. I did everything in my humble way, except by speeches upon the floor, to prevent its passage. But, sir, while I did that, I am not the man to attempt to affix the brand of condemnation upon those who acted differently from me at that time. I believe they were as honest and as sincerely desirous to do their duty as I was to do mine. I am not here to believe that those who have been branded over and over again for their action on this salary bill are any worse than I am myself. Perhaps, sir, they are much better.

There were various things which occurred at that time to which I will allude for a moment. I shall speak briefly. There were various things at that time brought to the consideration of the House which led those gentlemen to act as they did. I mean to be, and if I know my own heart I am, a candid man, acting according to the dictates of my own conscience. At that time there were charges of corruption made which were spread broadcast throughout the country, made against members in this and the other branch of Congress; and there was a feeling here among some of the best thinking and wisest men upon the floor of the House that it was our duty to increase the pay to such an extent that members would be removed from any and all temptation. Such was the feeling which existed at the time, as every member knows. Many members came to me and said they could not pay their actual expenses, and if the pay were not increased would have to go home in debt. I felt that, and appreciated the motive which actuated those who honestly differed from me in the course which they took at that time.

There is another thing. It was felt that the abolition of the franking privilege, the abolition of mileage, and the abolition of our stationery allowance went very far towards counterbalancing the increase of our pay. I promised to be brief, and I am watching the dial of that clock; but I want to allude to another thing, which is not understood, I believe, on the floor of the House very fully. I do not say it in any disparagement of the city of Washington, for I am proud of the city; but I do say, Mr. Speaker, that there is not so expensive a place to live in, within my knowledge, anywhere in any capital of the world, as this very city of Washington. My friend from Ohio [Mr. Lawrence] saw a placard, "Farmers to the front, and politicians to the rear." I wish he would invite farmers here with their families, and let them stay for a fortnight, and, my word for it, they will begin to feel it down here [slapping his pockets]. Farmers to the front! They are good men; but if they bring their families and stay here, I would like to see their pockets at the end of the month. I have lived in London and Paris, and I say that there is no capital where the expenses of living are so high as in Washington. What is the reason? The cities of London and Paris live upon trade. What does this city live upon? I do not blame them; they are obliged to do it, and we have to face the music.

SEVERAL MEMBERS. Say what it is.

MR. CROCKER. Do you want to know? Look at your bills. A hundred dollars a week is what I have to pay for myself and my wife. I wanted to bring my family here, and I began to look to see where I was going to land myself. But I promised to be short, Mr. Speaker. [Cries of "Go on."] No, I won't. But I will say a word about back pay, about which we have heard so much. And I am in that category. Yes, I am in it. I have collected all my pay here according to law—every cent; and nobody need ask me about it. In regard to the back pay let me say that when I returned from Congress at first, without knowing what the country thought about it, I asked various members with whom I was intimate if they would join me in an association in order to leave the pay entirely. That was my feeling at the time. Mine was a small matter, Mr. Speaker; I was only here a fraction of the term. Old as I am—and I believe I am the oldest member in the House—I was a mere parvenu, a neophyte here; I had been here only a very little while, and I had got a very small sum of money. Well, I tried to get a little company to join me, as I have said, and I failed. I found some noble men who had great doubts about it, but who finally concluded that they would give their back pay for the improvement and education of the young. I found there were all sorts of plans, and then I finally deposited my own in one of my banks. Thinks I, it will lie there safe enough. After a while I became grievously sick. I had not made up my mind—I had not actually made up my mind—what my conscientious duty was. So, being very sick, I called my confidential clerk, and said, "Here, put the amount to the credit of the United States. It is a small amount, but there will be enough effects to meet it, and my executors will take care of it." I did it because I intended to do right about the matter. Now comes the sequel. I began to get better. I took up one paper, and it told me I was a "salary stealer"; I took up another, and it said I was a "salary grabber"; and another one said this, and another one said that; and then by and by I began to open letters on the subject, and have continued to do so up to this day, and so long as this clamor continues, unless by the act of this House here, that money will lie where it lies now.

Now I say that boldly. I do not act from intimidation. I act only from my own sense of duty to my God and my country. I had a letter since I have been here which gives us a glorious idea. I think something was said by the gentleman from Georgia [Mr. Stephens] to-day that we ought to lead public opinion a little. But I got a letter the other day informing me that the best place for me was down at Blackwell's Island, and that I should find some company there that was very congenial. Now, sir, I was sent here to this House, to take the oath administered by yourself, by every vote in my own city, where I have disbursed millions and millions of dollars. But if, in coming here, I am to be called a salary thief, I shall retain that money until there is a better feeling in the country, unless Congress shall vote in the matter and direct otherwise; and then I shall cheerfully pay my little stipend into the Treasury. In closing, I appeal to my friends on this floor that we will come to some conclusion at once, and let it be a unanimous one.

I have been gratified to-day by the dignity and decorum and propriety which have characterized our debate. It is worthy of such a House of Representatives, emanating from the most free and glorious Republic that the sun ever shone upon.

It has been said of Mr. Crocker that "he went directly at a thing in Congress . . . in an earnest homely way, . . ." but on more than one occasion his speeches have departed from the "homely way" and risen to the heights of oratory more or less characteristic of the times. Such was the speech which he delivered in the Forty-third Congress on the subject of the appropriation for the Centennial Exposition in Philadelphia.

Congressional Record, 43d Congress, 1st Session, Vol. 114, 1874, pages 3672-3673:

Mr. Chairman, I have very grave doubts whether I will be able to occupy the floor long, and if not, I shall throw myself upon the courtesy and kindness of the House for leave to print what I would say. I have just emerged from an attack of pneumonia and fever, and my voice is anything but what it ordinarily is; and a good many other gentlemen here will soon be in the same condition, if we continue pursuing the same course we have heretofore—sitting here in a room that has none of the air of heaven in it at all, except that which is pumped up in an artificial way from underneath.

Sir, before I come particularly to the points I propose to make, let me say that some weeks ago I said something upon this matter of this exposition. It was said on the spur of the moment, but I said it with all the reluctance of a man borne down as I was, and as I believe every member of the House is, with a knowledge of the paucity of our means and of the want of everything that belongs to a nation so prosperous as we are—I said then, that I should be willing and ready to vote for a reasonable appropriation for this international exposition. I did it then, sir, under a pressure, and what was that pressure? I have witnessed the effect of these gatherings here on a small scale, and I have witnessed the effect of them on a large scale when abroad. I have seen in the mother-country, Mr. Chairman, the great gatherings of her people at turf meetings and at agricultural exhibitions and other occasions, and in 1871 I saw the gathering of the whole wealth of that wonderful island in the Crystal Palace in London. Sir, there was collected together there stock, manufactures, productions of every kind from England, Scotland and Ireland—no; I beg pardon; from England, Scotland and Wales. Ireland being little else than a stock-raising and agricultural country, which sells its products at cost, and buys principally its fabrics for use at 50 per cent. profit, had but little in its poverty to send to that exposition. Their meetings of the turf, their agricultural shows and other gatherings, not only make them a homogeneous people, but completely nationalize them. When I witnessed these spectacles, visiting them frequently and examining them in all their various departments, I realized the immense wealth of the little island, England and Wales, together not

making quite fifty thousand square miles. During my visits to England I saw the effect and influence of these great national gatherings. To sum it up in a sentence in prose, as expressed in a song which I heard among the lowly—"Old England, with all your taxation, we love thee still; we love our noble Queen, the personification of dignity to her sex and honor to humanity." Such a people, such a nationality, can never be conquered, and the flag of the Cross of Saint George can never quail or lose its power. Sir, I could not but feel and say, "Would that we could have a national exposition and bring the people of this great continent, of this great Republic, from Maine to the Rio Grande, from the Atlantic to the Pacific, *once*, at least, together."

To return, this animus impelled me to a *reasonable* appropriation, and I say now, as I have said before, it is false economy to withhold it.

Nobody regrets our shortcomings more than I do. Sir, we put the knife in too deep during the last session in retrenching customs and internal revenues, so that we cannot even provide for a sinking fund, much less can we pay for anything of this kind. But, sir, if those with whom I act upon this floor have courage enough, we will put on additional taxes sufficient to make ourselves right, and not mortify the nation's pride by showing the white feather in relation to this matter of celebrating the one hundredth anniversary of our Government. We have meddled with state rights when there was no exigency; ay, sir, we have even interfered with individual rights, and undertaken to fix the hours of labor, as if I, a laboring man, am to be told how many hours I may work. Sir, I have always worked ten, twelve, or fourteen hours a day, and whatever God has given me has come by hard work; but here under the Government a man is only required to work eight hours a day, or if he works more than that his pay is increased in proportion. There is not a shipbuilder in this country who cannot build ships cheaper than the Government. We have in consequence emasculated our navy-yards by making eight hours a day's work; and as the able chairman of the Committee on Ways and Means said, we had better begin to sell them, as private yards do not work less than ten hours per day. And so with our printing office; the work done in that office cost us nearly two dollars last year where it ought to have cost one dollar.

Another source of our national poverty, so that we cannot do what the nation's pride demands, is *demoralization*. What customs we collect are not half done. We give spies and informers half they can collect and worm out of some timid merchant, who, rather than lose all his books and, as he foolishly supposes, his character, *compounds*; while the internal revenue officers—some of them, at least—sit in their easy chairs and let the harpies of greed and plunder do their sworn duties at the halves. No wonder, sir, that we are poor and cannot meet a national want; and until reforms are instituted (and I give to the Committee on Ways and Means credit for their efforts) we must be *poor indeed*.

And now, Mr. Chairman, I repeat what I have once said on the impulse of the moment, that the day itself committed every American heart, and that our friends coming from the other continent to this exposition and comparing what we have



ENTRANCE TO THE WEST SHAFT

A group of miners about to descend the west shaft with their Burleigh drill. The man in the elevator standing by the drill is William H. Bailey, head draftsman and assistant to Mr. Haskins, the superintendent of the Burleigh Rock-Drill Company.

accomplished in one country against the ages of their existence, in levelling forests and building cities and railroads, their progress would seem small and diminutive to them as compared with ours under the influence of our freer institutions.

But, Mr. Chairman, I do not advocate this exposition on account of those who may visit us from other countries, of whatever class. They will all receive a warm welcome and every attention that is due to them. We never fail in this respect; but I advocate it and the appropriation on the ground of its beneficent influences upon ourselves, bringing our great family together from all parts of the country. How rapidly this will be accomplished by steam and the iron rail, we all know. There we shall meet and compare views, wear off prejudices, contract friendships which will continue until we reach that narrow house which is the last of earth. Yet I am not indifferent or oblivious to other countries and peoples who will come here to examine into our internal policy, modes of thought, progress in science and education, the arts and mechanics. No, sir; I hereby acknowledge our debt to the German, Scandinavian, and other bloods, who have made some of our best citizens. God bless them! Let such come over now and see their kindred. Nor am I anxious that they should ever go back again.

I look at this as an occasion when we shall not only come together and know ourselves, but know how much we depend upon each other; know what the East owes the South and West, and what, if anything, is due to us in return. Let us see the best specimens of production, the cotton, rice, sugar, etc., of the South. Ay, sir, and we will hail the production of any fabric they shall exhibit as a promise of future success in the same. We will also see the great West there, with all its cereals and manufactures, increasing every day in all the pride of Berkeley's prophecy, "Westward the star of empire takes its way," *sure* to come, when the East will be small, attenuated points in the galaxy of stars against their broad acres. I wish to see the people of this country gathered together on an occasion which will make one heart of us all—a great national throb and pulsation. I wish to see them gathered together at Philadelphia in old Independence Hall with its cracked bell. I want to go there, if my life is spared, as one John Hancock and one John Adams went a hundred years before. I said the other day, and I say now, that Massachusetts wants to be there, and I venture to promise that Massachusetts will be there. I wish to see our young and noble sister States of California, Nevada, and those States in prospect, Colorado and Utah, represented there with their untold and increasing agricultural products; it will be some satisfaction to gaze upon their specimens of gold and silver, so much wanted now, and which we cannot obtain for anything we have, it being sent to the mint in England to be coined for nothing (while here it costs one-fifth of one per cent.), and somehow we never get it back again. I want to see these specimens, if for nothing else on earth then to gaze on something that looks like hard money.

THE CHAIRMAN. The gentleman's time has expired.

MR. CROCKER. That cannot be; I have twenty minutes, and I certainly have not spoken over ten minutes.

Mr. PARKER, of Missouri. I think the Chair has made a mistake of ten minutes.

THE CHAIRMAN. The Chair is guided by the dial.

Mr. CROCKER. May I go on?

THE CHAIRMAN. The gentleman has four minutes more.

Mr. CROCKER. Very well, I must take what the Chairman sees fit to give me, but I have spoken only ten minutes.

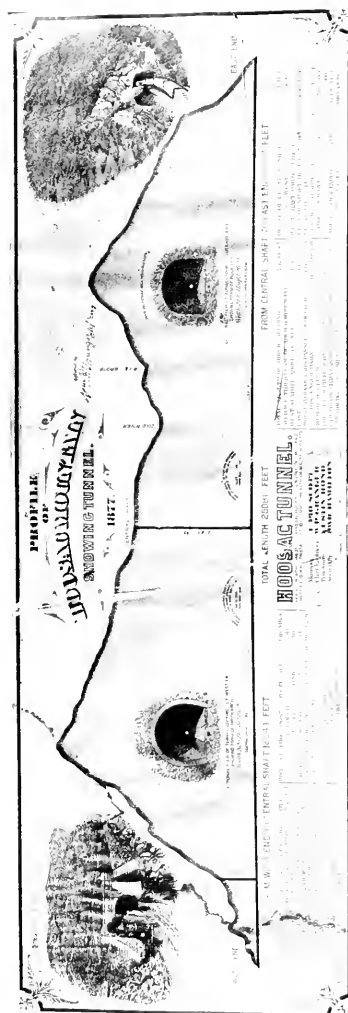
THE CHAIRMAN. The gentleman has spoken a little over fifteen minutes.

Mr. CROCKER. Very well, a word on finance, as to what we shall give. I accept the bill as it stands, although I could wish a less sum might be sufficient. I am willing to be taxed for it twice my proportion rather than the tender pride of this noble country should be wounded. This is a *national* matter.

I leave the guarded message of our worthy President, the circulars of Mr. Secretary Fish, whether guarded or unguarded, and say here and now that, when a proud nation through her proper authority, the executive, says anything by way of commendation of an exposition, it cannot resort to dereliction or subterfuge; and this is the impelling motive of the vote I shall cast to-day.

And now a word about the president and treasurer of the Centennial Committee selected to disburse any moneys which Congress or any individual or corporation may put into their hands. They are an honor to the city of Philadelphia. Sir, allow me to say you will have no defalcation there; none of those robberies and stealings which have made our ears sting, and tingle for the past few years. Every dollar will be vouched, and every cent too, passing through their hands. There are, thank God, some in our country that we can turn to yet as His "noblest work."

There has been a great deal said here about sentimentality. I have a word to say upon that subject. I remember when a boy that that noble galaxy of stars [pointing to the flag over the Speaker's chair] was thought something of. We did not call it sentimentality or anything of that kind when old Commodore Hull with the Constitution took the Guerrière, the Tava, the Cyane, and the Levant; when the frigate United States took the Macedonian, the Wasp took the Frolic, and the Hornet, the Penguin; when Commodore Perry won the victory on Lake Erie, and Commodore McDonough on Lake Champlain; when the noble Scott, at Lundy's Lane, said, "Boys, stand by your flag and your guns"; when all these things took place, there was the flag which they looked upon every day and every hour and every minute. I do not wonder that some people think it is a sentimentality by our suicidal course, from the fact that all the foreign carrying trade now goes almost entirely to other nations, and the noble emblem of the Stars and Stripes is seldom seen on the Atlantic Ocean. I do not wonder they begin to think it a myth. But *I* do not believe it—not I; nor did old Farragut think so when he nailed it to his mast. Nor did the poor wounded fellow whom I took care of after the battle of Antietam, with four shots through him, who had held the colors of the Massachusetts Thirteenth. In his dying hour he said, "Mr. Crocker, let me see my mother, and let me take hold of that old flag which I rushed ahead with in



REPRODUCTION OF AN OLD PRINT SHOWING PROFILE VIEW OF THE HOOSAC TUNNEL

An explanation of this may be found in the Appendix.

my hands in order to keep my regiment from breaking before the brave Confederates, for they fought as well as we; let me take hold of it once more, and then let me die." That a sentimentality? Pride of country a sentimentality? God forgive anybody that makes it anything like a *mere sentimentality*. I tell you it is *reality*.

Sir, I must now close, keeping in view the great national object of this Exposition, fraternity, unity. If we would keep ourselves one people, one body-politic, we must know each other better. The stars upon our proud emblem will always shed an undivided, ay, an undiminished lustre if we are only true to each other. Let us stand by that emblem and by each other, scorning every doubt and all treason, protecting the rights of our humblest citizen, and with God Almighty as our protector and guardian we will pale in glory all and every other flag of time.

It is pleasant to recall that the last recorded speech which Mr. Crocker made in the House of Representatives, June 5, 1874, was in generous defence of an appropriation for the removal of an obstructing bar at the mouth of the Mississippi River. He ended with his favorite quotation from Bacon, which well expresses the objects of his life's work: "There are three things that make a nation great and powerful: a fertile soil, busy workshops, and easy communication of men and merchandise from one place to another." His public work began with a bold and successful attempt to make "easy communication for men and merchandise" of his home country, and it was appropriate that his last public utterance should seek the same object for a far-distant neighborhood.

The speech is too characteristic to omit; and with it we close the chapter of Alvah Crocker's public service.

Congressional Record, 43d Congress, 1st Session, 1874, Vol. 114, page 4618, June 5, 1874:

Mr. Speaker, I rise first in behalf of the National Board of Trade, of which I am a member. This Board at their autumn meeting last past, in the city of Chicago, discussed fully the question of removing the bar at the mouth of the Mississippi River, passing upon it, as imperative and controlling, to be the bounden duty of the Government of the United States. This, Mr. Speaker, is one of those self-evident propositions which any man of common sense can hardly question. One is lost in the contemplation of what the valley is to be with almost half of our population now, with twenty-one growing States, seven Territories, and more to come.

Where is our equilibrium, and where are these States and Territories going to land? God in his wisdom has so made this continent, that it is not susceptible of division, diverse as our pursuits now are, or may hereafter be. We cannot divide our Mississippi or other noble rivers. "Mason and Dixon" is a myth of the past. Sir, we are one family, large, I confess, but *one* family we must be. Our popular institutions, ever developing our broad land from shore to shore, from center to

circumference, until at last we are molded together, not only by the ties of interest, but consanguinity and fraternity, never to be severed, "one and indivisible." Sir, I yesterday heard of a South, sometimes coupled with a West, as if there were no East or North. Has the compass lost its attraction to the North pole? And is there no North, no East? Have they not also the same vital interests that the South, or even the West, has? If you open the Mississippi, open it effectually. Are we of the North and East to be shut out, or reap the benefits of its competition with the iron rail in cheapening transportation? Heaven forbid, it cannot be. Sir, I repeat once more, we are one! If the waters cover the South, is the East, ay, is Massachusetts and New England haggard, cold, or stolid, indifferent to her calamities?

Did Boston, the pride of New England, after the loss of one hundred millions by fire, hold back? Are we not ready to share what God in his mercy has given us? Ay, sir, say not South, or West. So long as our glorious inland seas from the cold Superior to Ontario lave our northern shores, or the roar of Niagara's cataract is heard to heaven, or the stormy Atlantic billow roars its requiem upon the rockbound shores of New England; so long as the electric wire from our shores under its bed, three thousand miles away, clicks the business throb of a great country, so throbs the heart of our people from every State in our Union. Touch Louisiana, or California or any other State with distress and suffering, and you touch the East and North.

But enough of this. I now come to the question of the two systems, each advocated so ably, to remove obstacles in developing our commerce. I confess to be in doubt. I acknowledge my indebtedness both to the majority and minority bills and reports, both aiming at the same grand object. I shall offer no amendment, but what I would prefer is that some number not exceeding ten should be selected from the Mississippi Valley, of its practical and sound men, by the Speaker and the Presiding Officer of the Senate, to serve without pay, save expenses, with power to call upon Army or civil engineers for any facts they may desire to develop, to end of making up a clear judgment, to be rendered on or before the 1st of October ensuing, and to be conclusive and final, whether by the whole or a majority thereof of said commission.

Now, a word about engineers, of which my friend from Tennessee [Mr. Lewis] has said so much. I may state without egotism that I have had something to do with that profession, having built a great competing line for Western traffic and having charge, from my own State, of the Hoosac tunnel for some two years, before it was contracted, and which cost Massachusetts ten millions to reduce, like the present proposed improvement, the cost of transportation. Engineers are indispensable; figures, quantities must be had; but, as a rule, they (the engineers) are not economists. They should in this regard be controlled by the practical brains of self-made men. Even in the profession itself, some of its strongest jewels, like Stephenson, and Loammi Baldwin of Massachusetts, educated themselves. I had occasion to test Baldwin's engineering and his levels made twenty years before

I had anything to do with public works. Sixty miles from Boston and tide-water, on the White Mountain ridge, we only varied a single foot from low tide. Now we ought to add the judgment of practical men to that of engineers, in a matter of so much importance to the country.

Sir, my friend from Missouri [Mr. Stanard] said yesterday that he hoped to see the time when the Mississippi Valley should produce four hundred million bales of cotton for export. I go further than that, for I do not wish to be mere "hewers of wood and drawers of water" for countries thousands of miles away, furnishing simply raw material for them, to be paid back in the fabric made from the same material at 100 per cent. profit. Let that great valley keep their cotton; manufacturing it into yarns and cloth, for exportation, and for home consumption, and not export the raw cotton. The Mississippi Valley ought to do their own manufacturing at home, dike their own river as it should be done, and the happy millions that can be sustained on that rich delta cannot now be computed.

Sir, we have heard this very week much of Mormondom, but if we would take a few lessons on political economy from Brigham Young and his associates, who have made a wilderness of sagebrush to blossom like the rose, who have made a wealthy community in twenty-five years, of barefooted men and women, by supplying the wants of their people at home—I say, sir, if we made our rivers and thoroughfares what they should be for cheap transportation, our manufacturing industries what they should be likewise, we should not now be crying after specie, of which we produce some hundred millions of dollars annually, or what is stranger still, crying from day to day after bad money. Lord Bacon truly says: "There are three things that make a nation great and powerful: a fertile soil, busy workshops, and easy communication of men and merchandise from one place to another."

When in December, 1874, Alvah Crocker bade adieu to his colleagues in Washington, he left them in the best of spirits at the prospect of a vacation in his beloved Fitchburg. He spoke frequently "of a vigor and freedom not enjoyed for many years." Though seventy-four years of age, he was "possessed of such a strong and powerful frame and constitution of body," that it seemed probable that he might be destined to enjoy many more years of useful service. On the journey northward into the much colder climate of New England he contracted a cold which soon turned into pneumonia, and, after being confined to his house but a day, passed suddenly away at eleven o'clock Saturday evening, the 26th of December.

Fitchburg was shocked by the suddenness and overwhelmed by the magnitude of its loss. To many a soul it came as a personal bereavement, for Alvah Crocker was something more intimate to his neighbors than a mere man of great prominence and success. He had been a generous giver, and "especially delighted in aiding young men of limited means. The needy never turned empty from his door. No portion of that vast

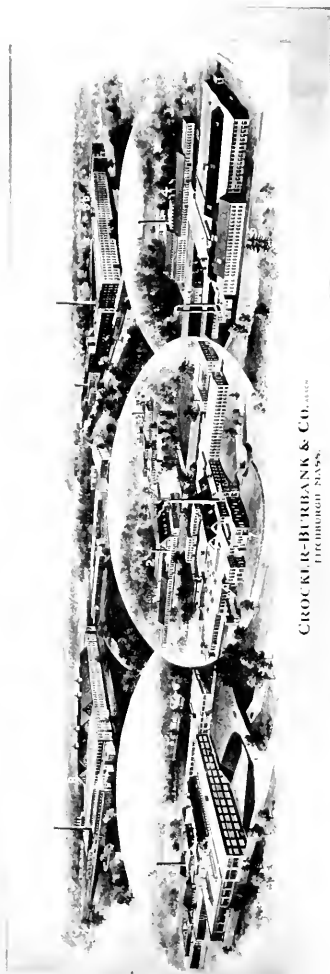
concourse of people who crowded the funeral procession testified their bereavement more sincerely than the humble and dependent who had been recipients of his bounty." He was survived by his wife, Minerva Cushing, whom he had married October 20, 1872, and who died in the old homestead at Fitchburg in 1921.

In retrospect we can scarcely regret that death's hand fell upon him at the end of a period of long-sustained activity, as if to say: "Well done, good and faithful servant. You have accomplished full more than your share, and are to be spared the pain of an old age conscious of declining powers."

The tributes of the time were generous, but well deserved. As we review them we cannot feel that those who paid them indulged in any appraisals which time has not sustained.

As our minds revert to the picture of a young barefooted country boy of eleven years trudging day after day to the little paper mill in Leominster, we think of his frugal home life, its deeply religious atmosphere, the half-dozen books, and its scanty comforts; and then that single hard-earned term at Groton Academy, the culmination of the formative period of his life. The issues of this environment as exemplified in the career of Alvah Crocker seem no less remarkable than those of a Jacob Riis or an Edward Bok. At the same time, we may reflect that this life was no less exceptional for those times than for ours, and that a genius for industry is as much a gift as a genius for art.

We may rejoice that the commonwealth for which he labored has so much more than it had a century ago to offer to its native sons and its emigrant wards. Not less but more than Alvah Crocker should we "have faith in Massachusetts."



CROCKIER-BURBANK & CO., ASSOC.
FITCHBURGH, MASS.

MILLS OF CROCKER, BURBANK & CO. AND THEIR PRODUCTS

- Mill No. 1, originally called the Upton Mill, later the Brick Mill—Bristol and index boards.
 Mill No. 2, or the Stone Mill—Machine-finish and supercalendered book papers and card papers for coating.
 Mill No. 3, or the Snow Mill—Machine-finish book papers.
 Mill No. 4 or the Hanna Mill—Machine-finish book papers.
 Mill No. 5a, comprising the old Whitney and Lyon Mills—Machine-finish book papers.
 Mill No. 5b—Machine-finish and supercalendered book papers.
 Mill No. 6, or Pulp Mill—Bristol and index boards.
 Mill No. 7—Supercalendered and machine-finish book papers.
 Mill No. 8—Supercalendered and machine-finish book papers.

APPENDIX

CROCKER, BURBANK & CO., 1874-1923

At the time of Hon. Alvah Crocker's death, in 1874, Crocker, Burbank & Co.'s plant consisted of seven mills, with a total daily product of seventeen tons. On January 1, 1923, this company had nineteen paper machines, with a total daily capacity of 300 tons.

There have been many individuals responsible for the continued success of the company founded originally by Alvah Crocker, most of whom have been direct descendants either of him or of his immediate relatives.

In 1874, besides Hon. Alvah Crocker, there were actively engaged in the business George F. Fay, Samuel E. Crocker and Charles T. Crocker.

The following descendants and relatives of Alvah Crocker have since that time been actively engaged in the business:

EDWARD S. CROCKER . . . 1878 to 1909	BARTOW CROCKER 1909 to present
GEORGE H. CROCKER . . . 1879 to 1909	DOUGLAS CROCKER 1909 to present
ALVAH CROCKER 1880 to present	ALFRED M. CROCKER . . . 1910 to 1911
CHARLES T. CROCKER, Jr. 1892 to present	BIGELOW CROCKER 1912 to present
SAMUEL E. M. CROCKER . 1903 to 1922	C. T. CROCKER, 3d 1916 to present
ALVAH CROCKER, Jr. . . 1904 to 1909	WEYMAN S. CROCKER . . . 1919 to present

ADDRESSES ON THE DEATH OF HON. ALVAH CROCKER

Proceedings in the House of Representatives. Address of Mr. Dawes, of Massachusetts:

Mr. Speaker: I desire to interrupt the ordinary current of business in this House that the attention of its members may be directed for a few moments to an event full of admonition, and one which awaits us all. It becomes my painful duty to announce to the House the death of one of its members, Hon. Alvah Crocker, a Representative from the tenth congressional district of Massachusetts, who died at his home in Fitchburg, in that State, after a brief illness, on Saturday, the 26th day of December last. He separated from his colleagues and associates here at the commencement of the holiday recess in unusual health and spirits, speaking frequently of a vigor and freedom from illness not enjoyed for many years. His journey northward to his home in the rigor of December brought upon him a severe cold and afterward congestion of the lungs, which confined him to his house on Friday and terminated fatally on Saturday evening. He sank rapidly in the last few hours of his illness, and passed quietly away at eleven o'clock in the hope of a glorious immortality.

Mr. Crocker was born in Leominster, in our State, on the 14th day of October, 1801, and had therefore at the time of his death just entered the seventy-fourth year of his age. His parents were poor, and without the means of rendering him any assistance in preparation for after life, and hardly more than a maintenance from his earliest years, and he became a factory operative when only eight years of age. The first and almost the only fifty dollars expended on his education was earned by him in night-work in the factory at four cents an hour, and while it lasted he was a pupil at Groton Academy. Whatever he could earn in this way was devoted by him to fitting himself for a broad and practical usefulness in after life. In fact, almost his entire education was acquired in that broader field of practical life where necessity is the teacher and experience the guide.

In his early manhood he entered as a partner with others into a responsible business connection as a manufacturer of paper, in which pursuit he continued with marked and unbroken success till his death. Though largely and devotedly engaged in this the special calling of his life, he found time to undertake and carry out to successful results other enterprises, some of them of vast public concern, and all of them of great usefulness and influence in promoting the healthy and permanent growth of the community in which he lived, bringing to himself at the same time large returns and ultimately great wealth.

Embarking with characteristic zeal and energy in the earliest railroad enterprises in Northern Massachusetts, if not himself its projector, at a time when railroads were as yet an untested experiment, he lived to see that line traverse the entire State and connect its tide-waters with the Hudson and the western lakes by one of the most marvelous works of internal improvements in modern times, and all pushed to completion by an energy and forecast inspired by him more than by any other. Under the same influences his own town has grown from an unimportant village of a few hundred inhabitants to a flourishing and prosperous city of large and increasing wealth and importance in the Commonwealth. It to-day mourns the loss of a citizen constantly contributing by a ceaseless activity singularly well directed to its improvement and prosperity, to the comfort and character and growth of its people.

Nor were these characteristics of Mr. Crocker's life confined in their results to the city of his residence, but were felt in stimulating the development of a great variety of industrial interests and the consequent increase of prosperity and wealth in other parts of the State. A beautiful manufacturing town has sprung up within a few years on the banks of the Connecticut, increasing rapidly in population and wealth, and destined soon to rank among our cities, which owes its very existence to the indomitable energy and tireless efforts of Mr. Crocker.

The implicit confidence of his fellow-citizens in his spotless integrity as well as sound judgment and unusual forecast, called him most frequently to positions of very delicate trust and of great responsibility, which he held from his earliest manhood to the day of his death. His decease has made vacant positions in the board of direction of institutions and associations for purposes of business and

public and private trusts as well as for objects of benevolent and religious work greater in number and importance than would be caused by the death of almost any other citizen of the Commonwealth.

Mr. Crocker was three times a member of the house and twice a senator in the Massachusetts Legislature. On the 2d day of January, 1872, he was elected to the Forty-second Congress to fill a vacancy caused by the resignation of Governor Washburn. His election took place while he was absent from the country with Mrs. Crocker, whose failing health had taken him abroad many months previous to the existence of the vacancy. He had no knowledge of either nomination or election till his return after both had occurred. Mrs. Crocker's protracted sickness and death detained him for some time from his seat. He was re-elected to the Forty-third Congress by a large majority, but declined a re-election to the Forty-fourth.

Mr. Crocker was in politics a Whig, and, after that party, a Republican. Bringing to the discharge of every political duty growing out of those relations the same enthusiastic zeal which characterized his every undertaking, he was nevertheless no partisan, and always followed his convictions rather than his party. He came into Congress late in life, and was not permitted to remain long enough in his work here to leave that personal and permanent impression upon the administrative policy or legislation of the country which experience often brings to the share of others. But he was not idle here. Indeed, he could not be idle anywhere. In the committee-room, as well as upon the floor of the House, and always in consultation, his practical knowledge and wise counsel were invaluable, while his genial disposition and flow of conversation made him a general favorite. It was truthfully said of him that "he went directly at a thing in Congress as he would in his own business affairs, and in an earnest, homely way they were little accustomed to witness."

Mr. Crocker was a remarkable man in all the variety of pursuits in life into which his tireless spirit and iron will led him to embark. A larger measure of success and a more widespread influence and abiding impression were attendant upon his career in life than mark the path of most of his contemporaries. The tendency of his whole life-work was for good. He was a generous giver, and especially delighted in aiding young men of limited means. The needy never turned empty from his door. No portion of that vast concourse of people who crowded the funeral procession testified their bereavement more sincerely than the humble and dependent who had been recipients of his bounty. He was a religious man, and died in the faith of the Protestant Episcopal Church, of which he was an officer at the time of his death.

Mr. Crocker had been married three times, and left two children and a widow stricken by this bereavement, yet sustained by that faith which assures them that their loss is his gain.

Mr. Speaker, the shafts are falling thick and fast among us. Massachusetts is called upon by this dispensation, for the third time during this Congress, to mourn the loss of one from the number of those she has commissioned for the

public service in these Halls. And even now, before these ceremonies are concluded, a fourth is added to the list of her dead. The funeral procession has but just borne another of her delegation from the scenes of his labor here. Our Commonwealth is most sensible of how great is that loss. She bows her head in submission and testifies her grief at the tomb of her faithful public servants.

I offer the following resolutions:

Resolved, That this House has heard with deep regret the death of Hon. Alvah Crocker, late a member of this House from the State of Massachusetts.

Resolved, That as a testimony of respect to the memory of the deceased the officers and members of this House will wear the usual badge of mourning for the space of thirty days.

Resolved, That a copy of these resolutions be transmitted by the Clerk to the family of the deceased.

Address of Mr. Butler of Massachusetts:

Mr. Speaker: The most gracious boon conferred by a merciful Providence upon any man is that he may not know the hour or manner of his death. When it comes to him in the full vigor of activity, especially after long, long years of a well-spent life, as a relief from all sorrow and care, with a humble Christian hope of a future and better life to come, such a departure calls neither for tears nor mourning in his behalf whose life has been so blessed by its ending. Yet it is well to pause amid the contests of life, its struggles and business, to give thought to the conduct and example of the departed, to contemplate all that is beautiful and good in his character, and to pay some tribute to his virtues, and thus aid to keep green his memory.

By the death of Alvah Crocker, a member from Massachusetts in this House of Representatives, our Commonwealth has been called a second time to mourn for one of her chosen men; and while he had not, from long services in the councils of the nation, high attributes of eloquence and learning, attained that exalted place in the affection and reverence of his countrymen that was held by the great statesman of our State whose death has within a twelve-month called for our deepest sorrow, yet in another and perhaps no less useful sphere Mr. Crocker has so well performed his part in life, and has left for the contemplation and imitation of the youth of the country a career no less honorable, and in its results to mankind quite as practical and beneficent.

From humble life, without the advantages of that early training and cultivation which the universities may give, brought up by the rugged hand of poverty, he early distinguished himself as a thorough man of affairs, whose foresight in planning, whose skill and energy in executing many most important undertakings for the welfare of his fellow-citizens and the prosperity of his State, early gave him an enviable reputation in a community where all the faculties of mind were taxed to the utmost in the most active and complicated duties of life.

Mr. Crocker's character and success in life were indeed the very outgrowth of

the industrial pursuits of the people of Massachusetts. At an almost infantile age an operative in a manufacturing establishment, thence steadily rising step by step, overseer, superintendent, owner, acquitting himself so well in all that each step was but the round of the ladder by which he climbed from honorable penury to competence and the like honorable wealth. Among the very first of the far-seeing men of his State, with business sagacity that never faltered, he foresaw the effect which the then young system of railroading must have upon the prosperity of his native State, and allied himself very early in one of the most considerable railroad enterprises by which Boston was ultimately to be connected with the western part of New England, the provinces, the Canadas, and the great lakes. His sagacity and business qualities were at once recognized by his associates in the enterprise, so that he was early made president of the Fitchburg Railroad, planned in the beginning to connect his native town and the town of his adoption with Boston, but afterwards to be extended so as to become a portion of the railroad system that connects the tide-waters of Boston Harbor with the great lakes and the granaries of the West.

Mr. Crocker early saw, almost as by intuition, what came to others only by slow teachings of experience, the impossibility of profitably and effectively carrying on very extensive mercantile traffic over railroads encumbered by curves and heavy gradients, and therefore nearly a quarter of a century ago became the ardent advocate and untiring promoter of the most splendid engineering achievement of the age, the opening of a railroad track through the Hoosac Mountain by a tunnel sufficient for a double-track road of quite five miles in extent, of which work the State gave him charge as its commissioner, and which he lived only long enough to see completed.

While possessing qualities of the most positive character, yet his nature was so kindly, his disposition so courteous, his mind so fair, and his conscience so just, that he had fewer collisions in the many and diverse kinds of business in which he took most active part than fall to the lot of the most favored few. With such attributes, sustained by the most sturdy and vigorous physical health, which enabled him to carry forward with the greatest vigor all that he undertook, it was not singular that he early commanded the attention of his fellow-citizens as one well fitted for public service, and was by them chosen to represent their interests in public affairs; so that nearly forty years ago he was elected the representative of what is now the city of Fitchburg to the legislature of Massachusetts, which he filled during several terms, and was afterward later in life elected to the Senate of the State for two successive periods; in all which service he gained an enviable distinction and influence; never failing to command the suffrages of his fellow-citizens where he was offered as a candidate for their votes; so that he was elected twice to his seat in this House in the Forty-second and Forty-third Congresses, in which last we now turn aside from public affairs to mourn his loss as a fellow-member but yesterday acting with us in the business of the hour.

An ardent, patriotic friend of the Union, on the breaking out of the war, Mr.

Crocker took the most active and intense interest in all measures for the suppression of the rebellion. Too far advanced in years to take part in arms, he exerted himself to send forward troops, and while the war was waging he made a voyage to England, and spent very considerable time in impressing upon the manufacturers of England the condition of our country and the necessity that there should be a community of interest and thought and mutual fellowship between those classes in both countries that represent the industries of the people. When the war was over, not unmindful of those who had gone forth at his solicitation to battle for the country and laid down their lives in its service on the battle-field, he exerted himself with his accustomed power and vigor, contributing thereto largely of his own means to provide that the fallen heroes of his city should have one of the most elaborate and costly of the many monuments erected to the memory of those who fell in battle in that war, and fortunately lived long enough to see it completed, having made the address at its dedication but a few months before his decease.

Alvah Crocker died at the age of upward of seventy-three years, but was possessed of such a strong and powerful frame and constitution of body, that it seemed probable but for the accidental contracting of the disease from which he died, he might have seen many more years of useful service to his country and his kind.

Such is the faint outline of the record of a life not so brilliant indeed as some that flash their light across the age in which they live, but so useful, so practical, so devoted to everything that could aid, prosper, and foster all the best interests of the community in which he lived, that it is more than doubted whether any better model of a life well spent and duty well done can be held up for the closest imitation of those who may come after him.

The resolutions submitted by Mr. Dawes were then unanimously adopted.

PROCEEDINGS IN THE SENATE

Address of Mr. Washburn of Massachusetts:

I rise to ask for the reading of the resolutions from the House of Representatives in regard to my late colleague Hon. Alvah Crocker, which I believe are on the table.

THE VICE-PRESIDENT. The resolutions will be read.

The Secretary read as follows:

In the House of Representatives,
February 20, 1875.

Resolved, That this House has heard with deep regret of the death of Hon. Alvah Crocker, late a member of this House from the State of Massachusetts.

Resolved, That as a testimony of respect to the memory of the deceased, the officers and members of this House will wear the usual badge of mourning for the space of thirty days.

Richmond 13th Jan 1873
To the Hon. Secy of the
National Bank of the
District of Columbia
Washington
Dear Sir: I have the honor
of President & Director in the
Bank have been removed from office
of President, the said President
This with relation to the
Wife (family) of the President & the
long a resident of the same place
for at least ten years past, I have
In taking leave of you, it is my satisfaction
to congratulate you on the successful
of an Institution, which I have the
honor to found, & I expect the A. W. R.
with the same success, may follow in the future.
With the fervent wish, that Gods Blessing may
rest upon each of you; I remain as
ever your friend
Alvah Crocker.

MANUSCRIPT LETTER OF ALVAH CROCKER

On January 13, 1873, he presented this resignation as President and Director of the
Rollstone National Bank.

Resolved, That a copy of these resolutions be transmitted by the Clerk to the family of the deceased.

I have presented the resolutions which have been read with feelings of peculiar sadness. Never before has our State, never before has any State since the formation of the Government been called to mourn the loss of so large a percentage of its delegation during a given Congress. Four during the term, three in the past year, nearly one-third of our delegation, have fallen in the ranks. Death came so sudden and unexpected upon each one that their most intimate friends hardly realize that they had withdrawn from their daily official labors. Surely the reaper has thrust his sickle into our ranks with no sparing hand.

During the last session Mr. Crocker being confined to his room for a long time by severe sickness, none of us would have been surprised at the news of his death at any moment. But soon after his return home in the summer he began to improve and recovered his usual strength and vigor, so that when he returned to his official duties at the commencement of the present session he had the appearance of a strong, healthy man. A few days previous to our late recess he left for home to spend the holidays with the members of his family and near relatives of his own house. When he reached home he had a slight cold, but not sufficient to cause the least alarm. He applied himself from day to day to the inspection of his business affairs till Christmas, when he found himself too unwell to participate in the festivities of the day. It was not, however, until Saturday evening that he felt the necessity of medical attendance. His family physician was summoned, and upon examination pronounced the disease to be congestion of the lungs, not of such a nature, however, as to cause alarm. But he gradually failed during the day, and, finally, at eleven o'clock in the evening, died while sitting in his chair. Thus he passed over the river before many beyond his own family circle knew of his sickness.

Mr. Crocker was born in Leominster, Mass., October 14, 1801, and consequently was seventy-three years of age at the time of his death. His father, a hard-working, energetic man, was a paper manufacturer. He placed his son Alvah in the mill to learn the trade when but eight years of age. The boy was anxious to secure for himself better educational advantages than could be obtained at that time in our public schools. By practicing the most rigid economy he was enabled to acquire an academical education.

When twenty-two years of age he moved to the neighboring town of Fitchburg, and commenced the manufacture of paper for himself. Beginning with nothing but an inheritance of poverty and toil, he struggled along against untold difficulties and with varied success. With means so very limited he was obliged to commence in a small way, but gradually extended his business as he was able until he became the important proprietor of six or eight large establishments, and one of the most extensive and most successful paper manufacturers in the country.

But his time and energies were by no means confined to the prosecution of his own business. He was a man of liberal views and large public spirit; he took

special interest in the prosperity and growth of the town in which he lived. He did more than any other inhabitant to develop its resources; he devoted not only his time but most liberally his means to this end. From a small town of some two thousand inhabitants when he commenced business it has grown to be one of the most beautiful thrifty cities in the State, with a population of over fifteen thousand. The variety of its industries, the busy hum of its machinery, its railroad facilities quickening into renewed intensity the exchanges of business and the intercourse of men, all combine to make it one of the most attractive municipalities in the State. Mr. Crocker desired to develop and utilize every waterfall in the town. To this end he secured new and unexpected means of transportation to, and communication with, every section of the State. Not that his vision was narrowed and circumscribed within the limits of his own town.

When the system of railroads had hardly been commenced, when but few miles had been built in the country, when most business men refused to risk their capital in such visionary enterprises, Mr. Crocker conceived the idea of constructing a railroad from his town to Boston, in order that the northern part of the State might have free and easy access to the seaboard. He labored long and earnestly to secure a charter for this road. He met with considerable opposition not only from many of the most influential men in the eastern part of the State, but also from those who resided along the line of the route. It was thought that the scheme would end in utter failure. But Mr. Crocker knew no defeat, but, when rejected by one legislature, applied to another until he obtained his charter. Then, with unexampled energy and faith, he pushed forward the enterprise to a most speedy completion. In March, 1845, he rode in triumph into Fitchburg upon the first locomotive that ever entered the town.

But this was but the commencement of the great work he had in mind. His plan embraced a complete and extended railway system for the northern part of the State. Hence he proceeded at once to secure a charter for the Vermont and Massachusetts Railroad which would extend the line from Fitchburg to the western part of the State, thence into the State of Vermont. He was more largely instrumental in the construction of this road also than any other person. But he well knew that these roads would be of little benefit to any except those who resided in their immediate vicinity unless a connection could be made with the West. Hence his next step was to secure a charter for a road from the Vermont and Massachusetts road through the Hoosac Mountain. This was no ordinary task. The road would be very expensive and most difficult to construct. It required the construction of a tunnel through the mountain five miles in length. Such were the difficulties to be overcome, so great the expenditures to be made, that few men had faith to believe that the undertaking would ever be successful. But from first to last Mr. Crocker never hesitated or doubted. He lived to see his predictions for twenty-five years verified, and the tunnel, the object of his dreams by night and of his toil by day, completed.

Some years ago his attention was called to the most extensive water-power

in the State, at Turners Falls, on the Connecticut River, which had never been improved. He concluded to devote his energies and means to its development. A company was organized, of which he was the president and the leading spirit. The power and the territory adjacent were purchased, a dam and canal constructed, machine-shops, paper-mills, and extensive factories erected, and the region which yesterday was a desolate, barren waste has to-day become a beautiful flourishing town with its thousands of inhabitants. The beautiful churches, school-houses, and public and private structures of every variety attract the attention and call forth the admiration of the beholder. A national bank of discount and a savings institution each bear his name, and he was the president of each. Turners Falls stands to-day with its wonderful improvements as a monument to the energy and foresight of Mr. Crocker.

Mr. Crocker served three times in the lower and two in the upper house of the Massachusetts legislature with credit to himself and honor to his constituents. In 1871 he visited Europe on account of the sickness of his wife, and during his absence was elected to the Forty-second Congress, to fill the vacancy caused by my resignation. He was re-elected to the Forty-third Congress by 14,919 votes against 4,588 for the democratic candidate. He declined to be a candidate at the last election. When he entered upon his duties here he was over seventy years of age, and much of the time his health was so impaired that it was with difficulty that he attended to his official duties. In public as in private life he was strictly honest. He discharged all his duties in a most conscientious manner. No jobbery or corruption was ever traced to his door; but his entire record stands above suspicion.

Of his private life, of his genial and liberal hospitality, of the strength and warmth of his friendship, there is no time or need of reference on this occasion. Beyond the immediate circle of his friends, he will be specially mourned by the large company of his business associates among whom the greater part of his daily life has been passed, by the thousands of employees who were more or less dependent upon him for their daily sustenance, and by that untold number who have been the recipients for many long years of his charities.

Mr. Crocker was not without his faults. Like most men he made his mistakes and had his weaknesses. But on such an occasion as this we may well forget these. If we estimate his worth by what he has accomplished for the community in which he lived, for the section of the State in which he resided, few men will bear comparison with him. May it be ours to gather up and cherish the memory of his many virtues.

Mr. President, I send to the desk resolutions which I offer for the consideration of the Senate.

THE VICE-PRESIDENT. The resolutions will be read.

The Secretary read as follows:

Resolved, That the Senate has received with deep sensibility the announcement of the death of Hon. Alvah Crocker, late a member of the House of Representatives from the State of Massachusetts.

Resolved, That as a mark of respect for the memory of Mr. Crocker, the members of the Senate will wear the usual badge of mourning for thirty days.

Resolved, That a copy of these resolutions be transmitted by the Secretary of the Senate to the family of the deceased.

The resolutions were adopted unanimously.

Address of Mr. Wadleigh of New Hampshire:

Mr. President: A residence of some years near the home of Alvah Crocker and a knowledge of his reputation there lead me to pay a brief tribute to his memory.

His reputation was not won in political warfare nor in public life. Five years in the Massachusetts Legislature and two in the national House of Representatives after the age of three-score and ten were not sufficient for that. Yet he always manifested good sense, sincerity, praiseworthy fidelity to the interests of his constituents, and enlarged patriotism.

But his reputation was won in the course of a long and successful business career. Beginning life in obscurity and poverty, at the early age of eight years he was a factory operative. But his energy and ability conquered adverse circumstances. He secured an education which furnished a foundation for business success, and achieved a large fortune. That fortune was not used mainly for his personal advantage; it was used to forward and complete enterprises which have largely contributed to the growth and prosperity of Northern Massachusetts. The people whose welfare he had promoted manifested their respect for him by sending him to represent them in Congress when at the advanced age of seventy-one years by an overwhelming majority.

What can be said of him in these Halls will do comparatively little to perpetuate his memory. He has a nobler and more enduring monument than speech can rear. In Worcester County, upon the rocky banks of a flashing river hurrying swiftly to the sea, stands one of the most beautiful and thriving cities of New England, which within a few years has been created and which owes very much of what it is to the business ability and public spirit of Alvah Crocker. Till that city perishes will his memory be preserved as one of its founders.

LETTER TO THE HON. GEORGE EVANS

Alvah Crocker's grasp of the entire subject of transportation, his appreciation of its urgent necessity for the growth of the nation, and his intimate and technical knowledge of the subject are strikingly illustrated in his letter to the Hon. George Evans upon the remission of duty on railway iron. All the more interesting is this letter in view of the fact that Mr. Crocker was a protectionist in general, but he was never so partisan as to be blind to conditions that should be considered exceptional in nature and in treatment.

WASHINGTON, D.C., March 1, 1844

To the Hon. GEORGE EVANS,

Chairman of the Committee of Finance in Senate U.S.

Sir: I notice that you have reported a bill in the Senate, which, if adopted by Congress, will extend the time of imposition of duties upon railway iron in certain cases. As this question is vitally important to the productive interests of this country, allow me to present to you a few of the many reasons, both of a general and special character, which seem to me applicable to the question, though you are now doubtless possessed of better testimony in the premises than I am able to set forth.

The article of railway iron was from July, 1832, to March, 1843, practically, duty free. The United States Government, acting upon the principle that cheap and rapid intercourse conduce to national and individual prosperity, adopted, for that period, a policy which induced and enabled the wealthiest sections of country, like Massachusetts for instance, to nearly perfect a system of railways, which afford them the means of locomotion and transportation, to points of production and points of consumption, for less than one-half that it costs other sections, which, by reason of a more sparse population and more limited means, have not yet constructed such roads. I am aware that the reply will be, that railway iron can now be purchased as cheap (duty added) as when the earliest railways were built; but, independent of the fact of the increased value of money, those first finished enjoyed more than an equivalent for any present reduction of price, in the article of iron, by their novelty, monopoly of travel, and by increasing the agricultural, and calling into existence the various manufacturing pursuits, which, by the freights created, have rendered such lines profitable—like the Worcester,* the Lowell, and Nashua railroads in Massachusetts. Take, if you please, a few simple, plain reasons, which show practically their influence. The farmer at Rockford (Illinois) pays \$20 per ton for the transportation of his wheat to Chicago, some 80 miles; at Woodstock, or Rutland, (Vermont) \$20 per ton for the transportation of his butter, cheese, and pork, to Boston, 150 miles, and the same for his return articles of consumption. This is actually the price from those points by team or horse power. Now, the farmer at Albany, (N.Y.) pays \$5 per ton for his pork to Boston, 200 miles; and the same price for his imports by cars upon the Western railroad. Gypsum or plaster is, you are aware, much used for many soils. The farmer at Nashua, (N.H.) pays, delivered from the railroad, (41 miles) \$5 per ton, at Fitchburg, (Mass.) about the same distance, he pays (by team) \$10 per ton. The cotton manufacturer at Nashua, with 4,000 spindles, makes

*The market man for Westborough, on this railroad, paid to the inhabitants of that town \$50,000 the last year for milk, vegetables, &c., sold at Boston. The eastern division of the New York and Erie railway, during the six months prior to September 30, 1843, delivered 300,000 quarts of milk at New York, reducing the price from 6 to 4 cents the quart at an annual saving to that city of \$120,000.—See Superintendent's report.

7,500 pounds of cloth per week; and, saying nothing of the requisite excess of at least $8\frac{1}{2}$ per cent. in the raw material, you have $7\frac{1}{2}$ tons per week import, and export, or 391—say 400 tons per annum, at a cost of \$2 per ton by railway, is \$800. The Fitchburg cotton manufacturer pays \$7 per ton, by team, or \$2,800—leaving \$2,000 balance in favor of the Nashua manufacturer, to which you may safely add another \$1,000 for facility of communication, and saving in the transportation of his starch, flour for sizing, coal and bread stuffs.

The illustrations above cited will more or less apply to all our widely extended country, away from water communication, where steam and horse power are put in competition. It is submitted, therefore, whether the imposition of this duty, is now just to the different sections of the country?—to the younger and less wealthy States?—or accords with the genius and spirit of our constitution and laws.

Again: It will not be denied that railroads (though in infancy) have been contributors to national wealth, by increasing home production, mail facilities, developing new resources, enhancing in value, as they bring nearer to market, the public lands; that they were beginning, and, if persisted in, will ultimately consolidate and unite, by one vast system of inter-communication, this whole country.* How can the Government be justified in imposing an excessive, if not prohibitory duty, upon the material, when said duty arrests the completion of the feeble roads, commenced under an implied guarantee of eleven years policy, and thereby sacrificing the property of individuals and States, by depriving them of the power to finish them? Let it answer this question to Michigan, who is now knocking at its doors for relief; to Georgia, or any State, or individual company interested. I am aware, that it will be said that duties reduce the prices. This may be true, where our manufacturers come in competition with the foreign; and it would undoubtedly be true, that our high duty on railway iron would reduce the price of that article in England, if the United States were the leading market. But, in this case, their leading foreign market is upon the continent of Europe—in France, Belgium, Germany, and Russia. While by their redundancy of capital, the amount invested in the manufacture of this species of iron is very great; the competition, as the writer knows from actual experience, for the smallest orders, is strong; and with their present capacity for supply, it can hardly be supposed that any demand from this country can permanently affect the price.

Again. No railways are known to have been commenced since the passage of this tariff. Those now projected await the action of Congress upon this question, and I would now submit, if it be not due to the great iron interest of the State of Pennsylvania, that this article should be free, and for the following reasons:

1st. It gives vitality to the lines now projected, and many others, which

*Passengers, during the past summer, have been conveyed from Buffalo to New York, by railroad and steamboat, 510 miles in 37 hours, for \$11.50. And by means of the Albany and Boston road, from Buffalo to Boston, 560 miles in 36 hours, for \$15. Should Congress remit the duty so as to enable the New York and Erie railroad to be completed, the passage from Lake Erie to New York, 451 $53/100$ miles, would be performed in 26 hours, at a probable fare of \$10.

immediately created a demand for vast quantities of iron of better qualities and prices,* affording profits to the maker above the heavy cost of transportation. In the shape of iron, suitable for cotton, woollen and other machinery, and for railroad work, for engines, cast iron wheels, spikes, chairs, &c. Subjoined are some of the items of cost for construction of a railroad which will show how large a portion of the expense is in the above items, copied from the report of the Western Railroad to the Legislature of Massachusetts, for 1842, for 117 804/1000 miles of said road, to wit:

Graduation and road bed	\$2,289,371.91
(In this work, the amount of iron used in the shape of dirt cars, drills, iron bars, and pick axes, shovels, &c. is great)	
Bridging and masonry	977,961.74
(Great amounts of iron for trussing bolts, sledge hammers, chairs, &c.)	
Depot buildings, aqueducts, &c.	188,660.57
(Large iron rods for supporting roof, and strengthening the timber and iron pipe)	
Engineer department, instruments	190,248.86
Engines and cars, for 156 miles of road	642,547.04

The detail of the last item is as follows:

29 engines, iron or steel (save the boiler lining)	950,000 lbs.
29 tenders, nearly all iron, say of do. 10,000 X (1,500 wrought iron)	290,000 lbs.
25 passenger cars (64 seat) { 5,500 wheels and boxes 1,000 wr't iron axles, &c. } . . .	8,000 x 200,000 lbs.
11 passenger cars, short { 2,750 wheels and boxes 500 wrought axles }	4,000 x 44,000 lbs.
266 long freight cars { 1,200 wrought iron and steel 4,500 casting, 1,000 axles, &c. } . .	6,700 x 1,782,200 lbs.
170 short freight cars { 600 wrought iron and steel 2,500 castings 500 wr't iron, for axles &c. }	3,600 x 612,000 lbs.
Here you have of domestic iron, besides turn-tables, switches, &c.	<u>3,878,000 lbs.</u>

*One of the intelligent representatives of that State assured me that he was obtaining \$80 per ton for iron, which he sells at Pawtucket, Hartford, and Boston. Now the cost of railway iron, duty added, will not exceed \$54 per ton while the investment is much heavier to make it to advantage. It will be perceived at once, as railroads are what build up the manufacturing interest, how deep his interest is in this question. It is the machinist at Pawtucket and Lowell, who can afford great prices, for he will have good iron, of toughness and strength.

The weight of chairs for 100 miles, 10,000 lbs. to the mile, is 1,000,000 lbs.	
The weight of spikes for 100 miles, 4,575 lbs. to the mile, is 457,500 lbs.	
9,000 tons of the Trail, 52 to 56 lbs. to the linear yard, for 100 miles, duty \$25 per ton, is	\$225,000.00
Cost at Cardiff, in Wales, as paid by the Fitchburg Company, for 100 miles, \$24 per ton, is	\$216,000.00

It should be also borne in mind, that, while the iron rails suffer but little by abrasion, the cars and engines are constantly wearing out, and substituted by new ones, while an enormous quantity of iron is used in repairs, which upon the Western Railroad alone, for the engines, which are all iron or steel, in 1842, cost \$38,611.07. And the Pennsylvania coal (for Crab engines, made by Thomas Winans of Baltimore, who now has a contract with the Russian Government for 182 engines, at a cost of \$4,000,000 for the railroad from St. Petersburg to Moscow) cost \$11,078.04.

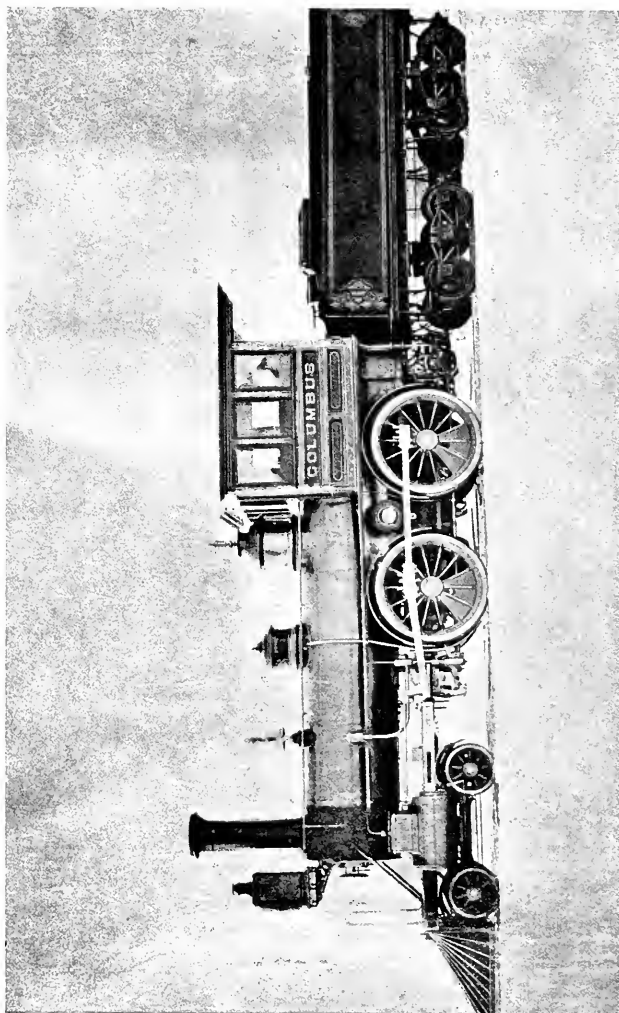
The estimate of spikes necessary to finish the New York and Erie Railroad is 1,057,224 pounds; of castings, chairs, &c., 4,383,268 pounds. (See Engineer's report.)

As I intend, in a future communication, to give some further detail of the consumption of domestic iron for railway purposes, it is hoped the above general facts will be satisfactory. I have deemed them important, because some suppose that this consumption, immediate and prospective, is actually more in tons than that of the rail itself. Now with such facts, with the home consumption which these railways create, both directly and indirectly, why, in the name of Pennsylvania, is this change of policy of stopping the demand, nay, the very avenues, which are to give her the means of cheap transportation for her iron, and create for her new markets? And if she advances, for 11 years to come, as rapidly in capital and skill in the manufacture of this article, as for the 11 years in which iron for railways has been duty free, will furnish that species of iron also, not only for this country, but for exportation. Time will not permit me to press this inquiry further, but I hope enough has been said to arrest the attention of the able statesman of that great and growing State, and, with a candid examination, I am confident of the result.

Again: The more extended a railway is, as a general principle, the more profitable. Why stop their progress, when the average annual income of the 5,000 miles now built in the United States is not supposed to exceed 1 per cent. on the investment? Will the Treasury receipts* for the current year justify a tariff so unequal and disproportionate?

Here are the prices of railroad stocks sold at the Stock Exchange, New York, January 1, 1844.

*Here are those of the custom-house at N. York above, being \$2,016,586.83, for the first 24 days in February; and those at Boston, from January 1 to February 24, 1844, being \$813,285.52; while, from January 1 to February 24, 1843, they were \$267,335.89 only.



COLUMBUS, FIRST LOCOMOTIVE THROUGH HOOSAC TUNNEL.

Those companies marked with a # have never paid any dividends. The others average about 5 per cent. per annum.

New York and Erie	#10 a 15	per cent.
Mohawk	#52 a 53	do.
Harlem	#42 a 43	do.
Utica and Schenectady	119 a 120	per cent.
Syracuse and Utica	105 a 106	do.
Auburn and Syracuse	110	do.
Auburn and Rochester	104	do.
Brooklyn and Jamaica	#75 a 80	do.
Long Island	#70	do.
New Jersey	98 a 99	do.
Paterson	#80 a 85	do.
Troy and Saratoga	#nothing	
Troy and Schenectady	#15 a 25	do.
Providence and Stonington	#34 a 35	do.
Norwich and Worcester	#33 a 33½	do.
New Haven and Hartford	#65	do.
Tonawanda	#60 a 65	do.
Buffalo and Niagara	# 5 a 10	do.
Lockport	#nothing	
Buffalo and Attica	75 a 80	do.
Saratoga and Washington	#40 a 42	do.

The stocks of Michigan and Illinois are considered without value, until the few finished routes in those States substitute the heavy T rail, which depends upon this duty.

The Southern railroad stocks are not much known, and very few of them have ever made dividends.

There are several roads in New Jersey that are barely able to keep in existence, but their condition is generally improving a little.

(The amount of railroad iron imported into New York since March, 1843 was a small lot of about 500 tons for the Norwich and Worcester extension; and very recently a lot for the Harlem Company, of about 1,100 tons, now in the hands of the Government, and about 800 tons for the Mohawk Company, in which duties have been paid. The total may be estimated at 2,500 to 3,000 tons.)

Further: Government has expended millions upon forts for the protection of her harbors—why prevent, or obstruct the building of railways, which are not only to man these forts in the least possible time, but also, when they reach our frontiers, give to it the power of concentrating troops and warlike stores in case of border outbreaks, or foreign aggression, for a small fraction of what it has cost heretofore?

Again: While the imposition of this duty was pending during the first session of the 27th Congress, it was then asserted, as it has been ever since, that there was abundance of capital ready to embark in the manufacture of railway iron. It is submitted, that not one pound* of the T or edge rail has been made. It is true,

*One of the largest and most respectable houses in the iron trade in New York has given out standing orders for the last year, but has not been able to obtain a pound.

that a few hundred tons of the common plate rail were made in Allegheny county, Pennsylvania, by a company, which, since this heavy duty was imposed, has become utterly bankrupt; and it is said that a few hundred tons of the same article are now being made for some road in Michigan. But the undersigned attempted himself, in behalf of the Boston and Fitchburg Railroad, to purchase 4,000 tons of the edge rail, which is the only suitable one for any road, for cash, and totally failed. The agent of the company, after keeping him in suspense some two months, informed him that he could not contract to deliver the iron at New Orleans, or to any other point of ship communication, for \$60 the ton.* As this was some \$15 per ton (including freights to Boston) more than the iron would cost, duty and all, the hope of using Pennsylvania iron was then abandoned. And notwithstanding the letters and memorials which are now being sent to members of Congress asserting the ability and readiness to make the article, for a reasonable price, the friends of remission deny both; ask the proof; go farther, and say—"take your time," "be sure you are right," and when you are ready to make and deliver the edge rail at Philadelphia, Baltimore, or New York, for 50 per cent. more than it costs delivered in England, they will not only become purchasers, but join in petitioning for a revival of the duty, should Congress afford them relief.

Upon the subject of memorials, allow me to notice a little more directly some of the reasons as set forth in one of them to the Senate of the United States against remitting this duty.

It said "that railway companies now ask for a legislation peculiar to itself."

Ans. It has been the policy of the Government for 11 years, and we only ask for even-handed justice.

It said "that Government has lost \$4,000,000" by her liberal and enlightened policy.

Ans. This would have gained, only at a more severe sacrifice, and loss in the stocks of said companies.—See sales of stock, page 7.

It is significantly asked, "What has been the result of this policy upon the industry, currency, and credit of the country?"

Ans. Let Massachusetts, which (as has been said) has brought her railroad system nearest to completion, having expended more than 18 millions for such roads, reply.

It said "That the foreign manufacturer pockets the difference in price, instead of paying it into the United States Treasury."

Ans. Here a one-sided view is given, by citing only three years. The remaining seven would have shown a different result, as will appear upon page 5.

It said "that works erected for this purpose, will be forced into the manufacture of those kinds of iron, which are highly protected."

Ans. How many tons of railway iron have these works made? And where have they been erected for this purpose?

*See also report of the commissioner of the State of Michigan, upon buying railway iron in the United States.

It said "that by this duty the construction of railroads will not be retarded more than they ought to be."

Ans. Why retard them at all? And then, again, in the same breath (strange inconsistency) "that their cost will not be sensibly increased"—See page 6, where the duty is given for 100 miles.

The memorial then speaks of the "extensive construction of solid and permanent roads."

Do the memorialists mean to use the plate rail, the only kind yet made here?

It said "that most of our great channels of communication have been constructed, and mines opened by canals and railroads."

Denied; but, if so, why put a stopper on the rest?

This memorial then goes on to speak of "States groaning under debts, which can only be liquidated by rendering these works profitable, instead of encouraging, by special legislation, rival works, to the injury of those that have been made."

I answer, that in the case of those States whose works now remain unfinished, this duty makes them GROAN STILL LOUDER; and where works "have been made," it smells of monopoly.

The memorial then says (strange), "Railroads are not entitled to any exclusive favor, as they have not developed and unfolded the mineral resources of the country, but canals."*

*By the report of the Navigation and Reading Railroad Company, for the past season, it would seem that they have transported 218,700 tons of coal to Philadelphia, at a cost of \$278,800. By the interesting report of the Baltimore and Ohio Railroad Company, we learn "that in pursuance of a proposition which was recently made to the Railroad Company, by the Maryland and New York Iron and Coal Company, which company is possessed of the requisite funds for the construction of a railroad to Cumberland, and which is anxious to complete such road in the shortest possible time, a negotiation was entered into which had terminated in a contract with that company for the transportation of a specific quantity per day of coal and other articles for a period of five years. The terms of this contract are that the Maryland and New York Company engage to make a railroad from the mines to the depot in Cumberland, and will furnish freight for one train of cars, supposed to transport 175 tons of coal per day for 300 days in the year; and the Railroad Company engage to transport that amount of freight, in the manner proposed, from the mines to Baltimore, at one and a third cents per ton per mile, a distance of 188 miles, with ten cents per ton for transportation through the streets of Baltimore; and one cent per ton per mile for 188 miles in addition, upon manufactured iron, when required to be transported in horse cars; the Maryland and New York Company to load and unload the cars. This contract is not limited to coal, but may embrace in addition, pig iron, bar iron, fire bricks, castings, and other manufactures of iron.

To show still more fully the cost of working a railroad at this low figure here is the report of the accomplished engineer (Mr. Latrobe): "It assumes that three locomotive engines will be required to do the constant duty of two; each engine to be of twenty tons weight, and to draw thirty cars, carrying seven tons of coal each, making 210 tons of coal transported by each train—that to conduct the business economically there should be two such trains daily, the distance travelled daily, down and up by each train, being ninety miles. Founding their estimate on this basis, and supposing coal to be used for fuel at a cost of \$1.68 per ton, the only wages or compensation for services, being for enginemen, firemen, and two brakemen; one quarter of a cent per ton per mile, being allowed for repairs and renewals of cars; and the same amount for wear and tear of road; no allowance being made for the cost of the road—and 12 per cent. being allowed for contingencies, the aggregate of cost thus obtained is 741-1000 cents

Can it be possible that those highly respectable memorialists have forgotten the Reading and Columbia railroads* which run to their city; the Mauch Chunk, which, with its branches, is 25 miles long, built for the exclusive purpose of "developing and unfolding" the Anthracite coal; and while I would not for one moment question the utility of canals, I would leave this memorial, by submitting, that railroads, if protected by Government, will, in the end, supersede them: because, in the coldest climates, they can be used at all seasons of the year.

I ought, perhaps, before closing, to notice a single other objection from another source. It is said "that some of the long lines of railways extort from Government an exorbitant price for mail service; therefore, Congress ought not to remit this duty." This is precisely what such companies want, because you shut out a proper competition by this prohibition. Other companies are debarred from constructing roads, which would perform such service for a fair price. It is submitted, therefore, and mark that quotation from the memorial above-named, which says, "railroads will not be retarded more than they ought to be." For the proof: Whether to retain this duty is not special legislation, for the especial benefit of any such company.

Permit me now to add two or three obvious reasons why the T or the edge rail will not yet be made.

1st. Want of capital. An investment of six millions of dollars would probably be necessary for the ordinary demand, owing to the large expenditure necessary for proper machinery to make this kind of iron, which, after all, is supposed to be only a fiftieth part of what is required for other domestic purposes in the United States. Or where 50 tons of iron are required for common use, there is one used for railways.

2d. The manufacturers do not yet supply the demand for the merchant bar, and other irons, which are more profitable with less capital. And lastly, the distance of the mountain ores† from the seaboard, making the cost of transportation of the iron about as much as the cost of manufacture in Wales, and showing clearly that these ores will be more or less valuable, only, as railroads are permitted to reach them. It seems to the undersigned that this reasoning is conclusive. It so appears to many in the commercial capital of Pennsylvania, (Philadelphia,) which has memorialized Congress for this repeal, and what is more remarkable, said memorial contains the signatures of eight presidents of railways, who are doubtless anxious to extend their roads with a full knowledge of this fact. Here is another piece of evidence, in an extract from a letter from a commercial house in New York.

per ton per mile. Upon this estimate the transport of 105,000 tons during the canalling season of 250 days—that is, two trains of 210 tons each day, at the offered rate of $1\frac{1}{8}$ cents per ton per mile, will give to the company a profit of \$18,722."

*Now asking you for relief.

†The public improvements of the State of Pennsylvania are said to be within some 30 miles of the Great Western Iron Company, where, by the alternate layers of coal, and the ore, they are best prepared for this species of manufacture. It is claimed that the article can be made at the Montour and Wilkes Barre works, on the Susquehanna, Crane works, and on the Lehigh, while in the very teeth of such a claim, is the fact, that the Reading railroad purchased English rails the past season.

(EXTRACT)

Allow me to call your attention to an advertisement in the Journal of Commerce, by which you will observe a proposal is made by the Sandusky City Railroad Company, Ohio, for 1,600 tons of the ordinary flat railroad iron bar, of the size used by the Utica and Schenectady Company, (30 by 35 tons per mile.)

It is a well known fact, that the expense of transporting flat bars of iron from the western part of Pennsylvania, or Pittsburg, to Cleveland, on Lake Erie, ranges from \$5 to \$7 per ton, while, from the Hudson river, via Buffalo to Cleveland, it costs from \$18 to \$20. Now, with this heavy protection, by the additional cost of inland transportation from the seaboard, and an almost prohibitory import duty of \$25, (amounting to \$58 or \$40 per ton*). The manufacturers of Western Pennsylvania, (if there are any there,) are unable to supply the most ordinary wants of their own vicinity, or any of the neighboring States.

I believe it is a fact beyond the reach of dispute, that not one step has yet been taken, in any part of the Union, for the manufacture of the heavy T or edge rail, with which the great roads throughout the country, in an unfinished state, must be completed, there being neither permanency or safety in the flat rail, where speed and heavy trains are required.

SIXTEEN HUNDRED TONS OF RAILROAD IRON WANTED.—(COPY.)

Proposals, by letter or otherwise, will be received by the undersigned, at the office of the Mansfield and Sandusky City Railroad Company, in Sandusky city, until the 15th of April next, for the above quantity of American or imported iron, in flat bars, of good quality, weighing 30 to 35 tons to the mile, to be delivered free of charge on the waters of the Hudson, at New York or Albany, or at Buffalo, at Portsmouth, Cleveland, or Sandusky, Ohio; at Beaver, on the Ohio river, or at some port on Lake Ontario, during the navigable season of 1844, and all by the month of September next, if practicable.

Proposers will please give the width and thickness of the bar, and the kind of joint, and their most favorable terms as to price and payment. Good references will be given and required, of the abilities of each party to fulfil any proposal that its officers or agents may accept.

C. WILLIAMS, *Engineer.*

B. HIGGINS, *Superintendent.*

SANDUSKY CITY, OHIO, January 16, 1844

Before assigning any special reasons which bear upon the company whose interests I more immediately represent, permit me to give one more illustration of the effect of this duty. Congress, by the act of August, 1842, imposed a duty of 8 cents the bushel, of 56 pounds, upon salt. For every 50 miles of railway from the purchasing market, where there is no water communication, which this said duty upon railway iron prevents from construction, it imposes a duty of at least 16 cents per bushel more, in the extra cost of transportation.†

I know the opponents to this remission will say that Congress cannot discriminate; that there is an equal claim from the ship-builder, as vessels are also common carriers, and why should not their iron be free? It seems to me that the last named

*To which may be added freight, insurance, &c., from England, \$5 to \$8 per ton.

†Salt at Nashua, N.H., 41 miles from Boston, cost 40 cents, by railroad, per bushel. Salt at Fitchburg, Massachusetts, between 40 and 50 miles from Boston, cost 75 cents, by team, per bushel.

class are one step in advance of us. They have the common element of water to run upon, free of charge, and are protected by tonnage duties, while by your tariff upon the rail, you say that the enterprising and persevering citizen shall not, though he will do it at great expense, and risk of pecuniary sacrifice; and though he would confer, too, an admitted national benefit, create artificial channels, to place himself, as near as possible, on a footing with those who daily hear the music of old ocean's surge, or witness the proud steamboat ploughing the currents of our noble rivers and lakes, or who even hear the shrill whistle, and puff of the locomotive upon iron rails, duty free.

Once more: It is urged that to discriminate in favor of railway iron, is to favor purse proud corporations rather than individuals. I will not waste paper upon this objection. For how can railways be built but by Government, or by associated individual effort? And if individuals here are willing to assume burdens which some of the most enlightened Governments in Europe have been obliged to assume, to answer the demands of public sentiment, why should this American Government, which claims to be still more enlightened, under pretext of revenue, suck, almost, the last drop of blood, from the veins of individuals, who associate, not from choice, but necessity? It being well known, that the power of taking land for public use can be exercised, only by corporations, duly authorized by Government. My conclusions, then, are:

1st. Eleven years' permission to import iron, duty free, has given railways to the richest sections of country, with the power to undersell such other sections, as were too poor to build them thus early.

2d. That while (though in infancy) railroads were beginning to unlock our hidden resources, to consolidate and unite us, while they were in a state of progress, Government steps in, and, by a change of law, arrests their completion, sacrifices millions invested, under a guarantee of said eleven years' policy, to the ruin of some of her most industrious citizens.

3d. That upon this iron rail, American tariffs will have little or no effect, as it is not now made here; that the leading foreign market to England is the continent, and with all that consumption, it is estimated that one-third of her forges are out of blast, while I have shown, by a table of prices, that from 1838 to 1842, the article, though duty free, was constantly falling (with the American consumption increasing), and by the competition of British manufacturers, probably would have receded to its present price, tariff, or no tariff; showing that the railway companies pay this duty of more than 100 per cent.

4th. That the immediate and prospective use of domestic iron for railroads, alone, probably equals the weight of the rail; consequently, every ton* of railway iron imported, makes a demand for one ton of domestic manufacture.

5th. That, in consequence of this use of the new avenues which railroads

*By an estimate of the able and experienced superintendent of the Worcester railroad (44 miles long), the iron used annually for the repairs of engines and cars, alone, is 300,000 lbs. On this basis the 400 miles of railway, in Massachusetts, only consume 2,400,000 lbs.

create for the development of the mountain ores, and cheap transit to points of consumption, the impulse which they give to other manufactures, which create a market for iron of qualities more profitable to make, Pennsylvania, herself, if she would give strength and permanency to one of her great staples, has a deep interest in the remission of this duty, till more capital and a better preparation exist for its manufacture.

6th. That if the object of this duty of 100 per cent. be revenue, it is unequal, and disproportionate; unwarranted by the present receipts of the treasury, and levied upon companies ill able to bear it.

7th. That in a national point of view, railways are the best protection to our harbors and frontiers, by the facility with which troops, and munitions of war, can be transported; and therefore, in lieu of a prohibitory duty, they deserve the fostering aid and support of this Government.

8th. That no T or edge rail will, for some years, be made for 50 per cent. above foreign cost; and perhaps I may add here, that the attempt to make it in the present infancy of our iron manufacture, would probably be disastrous, unless aided by a bounty from the Government.

9th. That, independent of this tariff, giving a monopoly in travel—in ability to undersell in produce and manufactures (by cheap transportation) to every section of the country which would now build railways, were this duty off, Government imposes, indirectly, for every 50 miles inland, (without water communication) an additional duty of 16 cents per bushel above the 8 now paid, upon the poor man's sale, in extra cost of delivery.

And, lastly, that the tendency of stopping new railways, by a preventive duty, is to make monopolies of the few already finished.

These conclusions I shall endeavor to maintain, backed with many facts, which want of room will not permit me to insert here.

The reason which your memorialists believe apply to them especially are—

1st. They were chartered, had made surveys, and incurred much expense in various ways, prior to the act of 1842.

2d. This railway starts from the United States navy yard in Charlestown, and penetrates the richest ship timber country in New England, and will reduce the price of ship building material at that point to the Navy Department from 20 to 25 per cent.

3d. This line of railroad is now chartered through the State of Vermont to Burlington, will finally end at Ogdensburg, upon the St. Lawrence, and, if the policy of Government allows it to be completed, will be equal to 20,000 troops maintained and supported upon our northern frontier.

4th. It passes through the richest mineral regions in the United States, producing iron, copperas, marble, (equal to the finest Carrara) Manganese, Kaolin earth, snow-white quartz, for sand paper and flint glass, slate, soapstone, &c. And though they would be valuable with such means of conveyance, are now, many of them, worthless.

5th. It brings Boston, the metropolis of New England, within 16 hours of the capital of the Canadas, when completed to Burlington, and, by the Cunard line of steamers, unites the old world with the new. And should Congress, in its wisdom, hereafter devise and mature some plan for the passage of goods,* and merchandise from the Atlantic, across the St. Lawrence, by the payment of some small transit duty,† it would give much of the carrying trade between said Canadas and the mother country to United States vessels, and to this line of railroad.

And lastly, your memorialists pray for a reduction of this duty, upon the broad and immutable principle of equal justice to all—a claim before which, no arguments of mere political expediency can for one moment stand.

In behalf of the Boston and Fitchburg Railway Company.

A. CROCKER, *President*

NOTE—The amount paid for construction of railroads in Massachusetts up to December 3, 1843, with the Nashua, was \$18,583,835. The dividends received for the year ending December 31, 1843, \$695,571.

Take any 20 of the railroads in the United States, including those in New England, and they do not pay an average of 5 per cent per annum, on the actual amount of capital paid. Who is then benefited? Certainly not the stockholders, but the public.

On page 126, the Worcester road (44 miles in length) is spoken of. Its detail of furniture is 312 freight, and 24 passenger cars, and 18 engines, with more than 2,000,000 lbs. of domestic iron used. Such facts show, what probably has not been duly considered by the iron interest, the vast consumption of American iron, from the engine down to the spike, and its constant use, by railways. That interest should also remember, that they cannot now supply the demand for domestic purposes, should the railroads be allowed to go on and finish. And that as near as can be ascertained, the amount of capital paid in for iron works,

*See the able report of the Secretary of the Treasury to the 28th Congress, upon this subject.

†Some idea of the ultimate importance of this trade may be inferred, from the following extract from the *Merchant's Magazine* for January, 1844: "Length of Canada, from the Gulf of St. Lawrence to Goose Lake, is 1,000 miles; width, from north to south, on the average, 300 miles. The area is 300,000 square miles, or two and a half times that of Great Britain and Ireland. The population in 1831 was 800,000, in 1843, by estimate, 1,250,000, about equal to Denmark.

The average value of the imports for eight years preceding 1840	\$6,711,941
The value of the imports for 1839 was	8,905,752
Average value of exports for eight years preceding 1840	4,085,629
Exports for 1839 were	4,380,571

The shipping that entered the ports of Canada for 1838, 560,285 tons; that cleared, 424,251; less than the average for seven preceding years. The Rideau Canal is 135 miles long from Kingston, on Lake Ontario, to the Chaudière Falls, on the Ottawa river, cost \$1,000,000. The area of Canada equals New England, New York, Ohio, Indiana, Illinois, and Michigan. This vast tract of country, it is well known, can only use the St. Lawrence about 5 months in a year, and by a liberal provision of this sort the carrying trade would fall mainly upon New York and New England."

pretending to make the flat rails, (snake head, travellers call it) will not exceed one million of dollars, while the railroad capital actually paid in, with a large portion of the roads unfinished, exceeds one hundred millions.

REPORT OF THE HON. ALVAH CROCKER, COMMISSIONER

Acting as superintendent of the work upon the Troy and Greenfield Railroad and Hoosac Tunnel: together with the reports of the chief and consulting engineers:

TO HIS EXCELLENCY THE GOVERNOR, AND THE HONORABLE THE EXECUTIVE COUNCIL OF THE COMMONWEALTH OF MASSACHUSETTS.

As Commissioner acting as superintendent of work upon the Troy and Greenfield Railroad and Hoosac Tunnel, I have the honor to submit herewith my Report of the operations of the fourteen months ending December 31, 1867, and a statement of the condition of the work at that time; accompanied by reports of engineers Field and Granger, and other documents of interest as tending to show in detail the present condition of the enterprise.

THE TROY AND GREENFIELD RAILROAD

The chief engineer herewith transmits a full report in detail of its present status and condition.

This officer has been unremitting in his efforts to improve the alignment of a difficult location, and I acknowledge my obligations to him for his industry and fidelity.

Prior to, contemporary with, and subsequent to the contract with Mr. B. N. Farren, I have rendered him such assistance as was in my power.

I have also met the constituted authorities of Franklin County in the matter of road crossings and the changes of common roads, to whom I desire to acknowledge my obligations for the promptitude with which they acted, and their evident and marked effort to secure for the Commonwealth a width sufficient for the railroad track in the narrow gorges of the Deerfield Valley.

The first section of this railroad, from Greenfield to Shelburne Falls, for which *twenty thousand dollars* per annum is to be paid, under lease, by the Fitchburg and Vermont and Massachusetts Railroads conjointly, was opened on Jan. 1, 1868; it being understood that such portion of the same as was not quite finished, by reason of the early frost, shall be done as soon as practicable. It gives me great pleasure to state, in conclusion, that Mr. B. N. Farren has shown the same energy and skill as he has in contracts heretofore; and the Commonwealth is greatly indebted to this efficient contractor for the thorough character of the masonry, bridging, road-bed and superstructure in this work.

TUNNEL BRIDGE

The only work now remaining uncontracted for east of the Tunnel is the bridge and embankment over the Deerfield River, near the Tunnel. The construction of this bridge is rendered necessary in early spring, so that the *débris* from the Tunnel can be used for the large embankment, of some 60,000 yards, east of the Deerfield River. Authority should be given for its construction the ensuing spring. The cost of a double-track bridge is estimated by Mr. Field, chief engineer, to be \$25,000.

As the railroad is on the north side of the river, at the proposed site of the Tunnel Depot, it will be necessary to build a common road-bridge to give easy access to the same.

The Deerfield River bounds the counties of Berkshire and Franklin; the town of Florida in the former and Rowe in the latter. The Troy and Greenfield Railroad will probably be opened to the Tunnel by July next; and it would appear that no time should be lost in taking the necessary steps for securing the construction of said bridge, either by applying to the two respective counties, or otherwise.

A NEW ROAD UP THE DEERFIELD FROM THE MOUTH OF
THE TUNNEL

This road, though not a part of the State enterprise, is deeply interwoven with its success, opening as it does an almost inexhaustible supply of lumber, which now, by the isolated condition of the east end, it is almost impossible to obtain at certain seasons of the year. It is understood that about eight miles—to wit, four in Berkshire County and four in Franklin County—will open communication with Whitingham, Wilmington and many other towns in Vermont, and with Rowe and Monroe in this Commonwealth. I hazard nothing in saying, that, in the purchase of lumber and supplies alone, it would, to this date, have saved to the State the whole cost of building. The southwestern towns of Vermont ask for this access to the Tunnel line; but the fact of the location of the road in two counties (Berkshire and Franklin), coupled with the uncertainty heretofore felt as to the date of the completion of the railroad in the Tunnel, has thus far prevented its construction.

I have addressed the two boards of county commissioners upon this matter, so important to the Commonwealth in the development of this section of Massachusetts. I have met them once by appointment, and at other times incidentally; and can but express the hope that now, as the policy of the State is defined, they will no longer hesitate in opening the vast timber resources of this region to the enterprise and industry of the wood manufacturers of Western Massachusetts, and to its citizens generally.

DEERFIELD DAM AND WHEEL-HOUSE

I have caused the apron of this dam to be thoroughly repaired. Where it was likely to be undermined by freshets, the washed places have been filled with stone.

In view of the great importance of a continuous prosecution of work on the heading, and the contingencies always attending the use of water power, such as anchor ice, short water, or breakage of wheels, &c., I have purchased under the authority of the Commission, an eighty horse-power Tufts engine and boiler, but little worn, for \$3,600. This engine, it is believed, will always be sufficient to drive the heading in case of need.

THE NEW FLUME, 80 x 16 FEET, RENDERED NECESSARY BY THE ADDITION OF TWO NEW TURBINE WHEELS, AND FOR CLEARING ANCHOR ICE FROM THE CANAL

Ample preparation, in the way of contracts for lumber and material, was made early in the season for the construction of this flume; but unforeseen accidents and casualties have delayed its completion. The death of one of the contracting parties; injuries, resulting from an accident, sustained by another; the inability of Messrs. Dull, Gowan and White to saw the timber and plank in consequence of low water,—which cause effectually stopped all the other mills in this vicinity,—and finally, the burning of 20,000 feet of plank—enough for the whole flume—at the central shaft, rendered it next to impossible to obtain lumber suitable for this purpose until quite late in the season.

I am glad to be able to report, however, that this important work will soon be finished.

COMPRESSORS AND WATER-WHEELS

Under authority of the Commission two new turbine wheels were purchased of Messrs. Kilbourn, Lincoln & Co., at Fall River, for \$1,800 each, to drive the two new compressors which were purchased of the Putnam Machine Company, of Fitchburg (the lowest bidder), for \$3,000 each. These compressors are similar to the No. 1 now in operation, and are now upon the ground awaiting the connection of the flume with the canal. The construction of this new flume, the additional compressors, and, in case of need, the engine already referred to, will undoubtedly furnish sufficient power for running the drills continuously.

MACHINE SHOP

The addition constructed of wood is ready for the compressors. This department is under the charge of Mr. R. J. Parker, and is conducted with great energy and economy.

EAST END HEADING

DATE	Nov. 1, 1865, to Nov. 1, 1866			Nov. 1, 1866, to Jan. 1, 1868		
	Distance from Portal	Progress	Size of Heading	Distance from Portal	Progress	Size of Heading
November 1,	2,839.0	—	—	3,431	—	—
December 1,	2,904.0	65.0	6½ x 14	3,473	42	8 x 17
January 1,	2,950.5	46.5	"	3,521	48	"
February 1,	3,005.0	54.5	"	3,581	60	"
March 1,	3,052.0	47.0	"	3,636	55	8 x 18
April 1,	3,115.0	63.0	"	3,727	91	"
May 1,	3,176.5	61.5	"	3,810	83	"
June 1,	3,227.0	50.5	"	3,897	87	"
July 1,	3,253.5	26.5	8 x 17	3,999	102	"
August 1,	3,301.5	48.0	"	4,130	131	"
September 1,	3,356.0	54.5	"	4,253	123	8 x 21
October 1,	3,394.5	38.5	"	4,364	111	8½ x 24
November 1,	3,431.0	36.5	"	4,481	117	"
December 1,	—	—	—	4,607	126	"
January 1,	—	—	—	4,708	101	"
		592.0 ft.			1,277 ft.	

It will be observed that the progress since June has been much greater than before, averaging, for seven months, 115 6/7 feet per month against an average of 66 4/7 feet during the previous seven, and of 49 4/12 during twelve months, ending Oct. 31, 1866. This gain has been owing, in the main, to the substitution of the improved Burleigh drill,—in place of the first machine drill, which proved a failure,—and to the experience and familiarity with their working which time alone could give.

During the three months in which the contractors had the work, every reasonable facility was afforded them, both by myself and by those under my charge, until they were relieved from their contract at their own request, and by order of the governor and council, dated November 9th. On the 15th, we received from them formal possession of the work.

In November, 1867, we advanced the heading 126 feet, and in the first six days of December 36 feet,—being the greatest weekly progress yet attained upon the tunnel heading,—and as has already been shown, during the month we made 101 feet, work after the 24th being suspended in consequence of anchor ice.

In taking leave of the east end, I would add, the amount of rock taken out of the enlargement during the year was 4,391 cubic yards. Undoubtedly it is desirable, as soon as practicable, to bring the enlargement and heading nearer together.

This we are now constantly accomplishing. The advancement of the heading is, however, the true key to progress. True economy would seem to indicate that we should prosecute the enlargement with the utmost vigor when we have plenty of power from the extra flow of water in the Deerfield, keeping it as a reserve for this purpose. We are now,—while we cannot drive the heading on account of anchor ice,—vigorously prosecuting the work on the enlargement.

CENTRAL SHAFT

DATE	Nov. 1, 1865, to Nov. 1, 1866		Nov. 1, 1866, to Oct. 19, 1867	
	Dist. down	Progress	Dist. down	Progress
November 1	200.8	—	354.0	—
December 1	220.1	19.3	377.2	23.2
January 1	232.5	12.4	393.0	15.8
February 1	250.7	18.2	413.0	20.0
March 1	264.0	13.3	434.5	21.5
April 1	280.9	16.9	454.5	20.0
May 1	297.1	16.2	480.0	25.5
June 1	300.5	3.4	506.0	26.0
July 1	—	—	527.0	21.0
August 1	300.5	—	546.5	19.5
September 1	311.9	11.4	560.0	13.5
October 1	331.1	19.2	572.0	12.0
October 19	—	—	583.0	11.0
November 1	354.0	22.9	—	—
		153.2 ft.		229.0 ft.

Average monthly progress while in the hands of the State 21.4 feet
 Progress, while in the hands of the contractors—

In August	13	“
In September	12	“
In October	11	“
	36	“

On the 19th of October, the buildings at this shaft were destroyed by fire; for detailed account of which see Mr. Peet's report herewith.

Number of cubic yards excavated by the State	2,274
Number of cubic yards excavated by the contractors	424
	2,698

The preparations for working this shaft were defective. I called the attention of the Commissioners to this fact in the winter of last year, and in a communication of the 5th of March last past. The pumps were inadequate, and the boilers, by the large extra consumption of fuel, worthless. I deemed it a duty to apprise Mr. J. J. Dull of these facts, and of the necessity for another engine for hoisting before the negotiation for this contract was closed, as appeared in a hearing at the east end before Messrs. Talbot and Evans, a committee of the Council. In reconstructing the works at this shaft, I consider strength and toughness as the truest economy; and would advise the best machinery for lifting and pumping, fireproof walls between the dome and machine-room and boilers and engine separated from either. Acting upon this principle, I have already placed the new saw-mill away from its former connection with the shaft, driving it with a portable engine, which, with the mill machinery, cost about \$2,400, the old burnt mill being received in part payment.

I have contracted for 250,000 feet of spruce lumber, delivered in the log at the mill, at \$10.50 per thousand, and 100,000 feet of hemlock at \$8 per thousand.

WEST SHAFT, EAST HEADING

DATE	Nov. 1, 1865, to Nov. 1, 1866			Nov. 1, 1866, to Jan. 1, 1868		
	Dist. from Shaft	Progress	Size of Heading	Dist. from Shaft	Progress	Size of Heading
November 1,	367.5	—	—	1,004.2	—	—
December 1,	414.4	46.9	6 x 15	1,042.0	37.8	6 x 15
January 1,	459.4	45.0	6 x 15	1,046.0	4.0	6 x 15
February 1,	503.0	43.6	6 x 15	*—	—	6 x 15
March 1,	546.5	43.5	6 x 15	*—	—	6 x 15
April 1,	584.8	38.3	6 x 15	*—	—	6 x 15
May 1,	623.3	38.5	6 x 15	*—	—	6 x 15
June 1,	682.1	58.8	6 x 15	†1,046.0	—	6 x 15
July 1,	746.1	64.0	6 x 15	1,066.0	20.0	7 x 22½
August 1,	810.5	64.4	6 x 15	1,097.0	34.0	7 x 22½
September 1,	871.4	60.9	6 x 15	1,136.0	39.0	7 x 22½
October 1,	945.4	74.0	6 x 15	1,185.0	49.0	7 x 22½
November 1,	1,004.2	58.8	6 x 15	1,239.0	54.0	7 x 22½
December 1,	—	—	—	1,272.0	33.0	7 x 22½
January 1,	—	—	—	1,294.0	22.0	7 x 22½
		636.7 ft.			292.8 ft.	

*Stopped on account of water.

†Fourteenth.

WEST SHAFT, WEST HEADING

DATE	Nov. 1, 1865, to Nov. 1, 1866			Nov. 1, 1866, to Nov. 3, 1867		
	Dist. from Shaft	Progress	Size of Heading	Dist. from Shaft	Progress	Size of Heading
November 1,	—	—	—	298	—	—
December 1,	—	—	—	*—	—	—
January 1,	—	—	—	*—	—	—
February 1,	—	—	—	*—	—	—
March 1,	—	—	—	*—	—	—
April 1,	—	—	—	*—	—	—
May 1,	—	—	—	323	25	7 x 12
June 1,	—	—	—	323	†—	—
July 1,	—	—	—	369	46	7 x 12
August 1,	—	—	—	451	82	7 x 12
September 1,	280.8	—	—	512	61	7 x 12
October 1,	298.0	18.2	7 x 12	561	49	7 x 12
November 1,	—	—	—	606	45	7 x 12
November 3,	—	—	—	611	5	7 x 12
		18.2 ft.			313 ft.	

*No work because of water in tunnel.

†Stopped on account of water.

In December, 1866, the miners were driven from the west shaft by an influx of water estimated at 250 gallons per minute. Subsequently I was instructed, and my undivided efforts were given to procure a pump, which would, in the shortest time, clear the shaft of water. Some action had been had as far back as the October previous, but no pump had been contracted for, although the purchase of a Wilmington Cornish pump had been under consideration before I took charge of the work.

January 4th, 1867, I made a provisional arrangement with Messrs. Knowles and Sibley, of Worcester and Warren, for a No. 9 pump to lift 250 gallons per minute, which, if it worked well and proved adequate for doing this heavy work, was to be received back by them without charge, and another made for the State of double capacity—No. 10 1/2. As the small pump was found to work well, the latter was ordered for the sum of \$900, to be made with extra strength and care. This pump, however, did not work as well as the first, and on the 3d of September, I ordered of Knowles and Sibley a double-acting plunger pump, to be done in six weeks, at a cost of \$2,500, and to lift 1,000 gallons per minute. This pump was not delivered till the 21st of December, but I am satisfied the delay was from no fault of the makers. In the mean time the water, though not regular, had increased

to a maximum of at least 1,000 gallons per minute, by the striking of pockets and otherwise. I had ordered the ditching of an adjacent swamp, which relieved us somewhat of surface water, the most persistent enemy we have to contend with in this shaft. The 1,000 gallon mining pump received in December was started January 4th, and is now working satisfactorily, and is believed to be larger in capacity than the two Wilmington Cornish pumps together, without their expensive foundations and buildings. As for this compact and beautiful machine and boiler to drive it, we use the Tunnel alone, which it is to clear of water, for a building, and its bottom for a foundation.

I will add here that the 10-1/2 500 gallon pump spoken of, which has caused us so much trouble, Messrs. Knowles and Sibley leave to be used in any exigency without charge, and decline any pay for it or its repairs, assuring me that they know no reason why it should not have worked as well as their other pumps. It is only through their promptitude in furnishing the second No. 9 in the flood of the last pocket, that our shaft is not full of water to-day, as I believe it would have been with the two Wilmington Cornish pumps, if, indeed, they had both been got into operation at this time. Our pumping capacity now is as follows:—

	<i>Cost</i>	<i>Galr.</i>
New Knowles pump, ordered Sept. 3d	\$2,500.00	1,000
Two No. 9 Knowles pumps	1,100.00	500
One old plunger (Gen'l Haupt), say 1/2 its capacity	—	112 1/2
A small "Worthington" I found here	—	125
The Knowles No. 10 1/2 as a reserve, rated at 500 gallons, say	—	250
	<hr/>	<hr/>
	\$3,600.00	1,987 1/2

In a year the adit or drain will be finished, and the necessity for pumping will be entirely obviated.

Any economy in fuel between the different kinds of pumps is probably more in theory than in practice. One thousand gallons of water a minute cannot be lifted 237 feet without a large power. Were I to express my humble opinion, or if the work was my own, I would not freight the heavy Wilmington machinery for a year's use of it, if the freight was the only charge. When the well No. 4, now being sunk, and the adit between it and the west shaft is finished, I shall transfer the pumping machinery to it, and save 32 feet of lift, or 13 1/2 per cent; and I want no pump or boiler that I cannot easily move from its present position in the supplementary shaft.

I would add, in conclusion, that we are now—January 15th—running both the east and west headings of this shaft, the flow of water having decreased to about 700 gallons per minute. If I have given more detail to this shaft, it is because of the great and almost insurmountable obstacles we have encountered in prosecuting it.

In the Appendix will be found a letter from the resident engineer, the opinion of Josiah Brown, Jr., a competent engineer, and others upon this subject.

BRICK YARD

During the year Mr. William Holbrook has made, per contract, 1,943,783 hard bricks of most superior quality, which have cost \$7 per M. He has also made 240,480 soft bricks at a cost of \$4.50. In this last amount were included the outside layers of the kilns, which, having been mixed with coal screenings, were sold at the yard for \$6 per M.

WEST END, COMPLETED BRICK TUNNEL

DATE	Nov. 1, 1865, to Nov. 1, 1866		Nov. 1, 1866, to Jan. 1, 1868			
	Distance from Pier	Progress	Distance from Pier	Progress	Going West	
					Distance from Pier	Progress
November 1,	—	—	200.0	—	—	—
December 1,	—	—	232.5	32.5	—	—
January 1,	—	—	250.0	17.5	—	—
February 1,	—	—	266.0	16.0	—	—
March 1,	—	—	280.0	14.0	—	—
April 1,	—	—	295.0	15.0	—	—
May 1,	—	—	320.0	25.0	68.5	—
June 1,	—	—	345.0	25.0	44.0	24.5
July 1,	—	—	371.0	26.0	31.75	12.2
August 1,	—	—	400.0	29.0	19.0	12.8
August 9,	68.5	—	—	—	—	—
September 1,	100.5	32.0	432.0	32.0	4.0	15.0
October 1,	164.0	63.5	462.0	30.0	—	—
November 1,	200.0	36.0	490.0	28.0	—	—
December 1,	—	—	520.0	30.0	—	—
January 1,	—	—	550.0	30.0	—	—
		131.5 ft.		350.0 ft.		64.5 ft.

SUPPLEMENTARY SHAFT

6 x 13, was finished March 15, 1867, having been sunk, during the year, 63 4/10 feet.

WEST END.—FARREN'S CONTRACT

Completed brick tunnel, going east 350 feet
 Completed brick tunnel, going west 64.5 "
 Heading 297 "

On the last day of August Mr. Farren completed his first contract for 374 feet. Under the instruction of the Commissioners I arranged the terms for another contract for 500 feet more of brick arch, on more favorable terms to the Commonwealth. I regret to add, that, notwithstanding the promise at one time of better material, it has proved worse; as at the west shaft Mr. Farren has constantly been contending with an increase of water. And there is much credit due him for the energy and perseverance with which he has pushed through this treacherous material. He has been forced to drive headings on each side of the central adit, and outside of the limits of the tunnel, which, together with the central adit, have been kept as far as possible in advance of the enlargement for arching, for the purpose of draining and carrying the water outside of the material to be passed through. This he found necessary, as no timbering is able to stand the immense pressure of this material when fully saturated with water. These drifts or headings have been driven at his own expense.

Notwithstanding the difficulties with which he has been, and is now, contending, his progress has been very satisfactory.

For the year ending Nov. 1, 1866, he had completed	151 5/10
For the year ending Nov. 1, 1867, he had completed	354 5/10

On the 25th day of June I received a communication from the consulting engineer of the governor and council, just as he was leaving for Europe, with plan reducing the size of the Tunnel arch (26 x 26 feet) and diminishing the number of courses of brick as adopted by the first commission. As it was near the close of Mr. Farren's first contract, and as after Mr. Latrobe had left the country the material seemed to grow worse instead of better, as Mr. Latrobe had expected, no change was made. At a subsequent period the Commission considered the subject at North Adams, but no change was ordered. It was also voted, upon recommendation of the consulting engineer, to repair the Haupt timber arch at convenience, the cost of which repair was estimated by him at \$2,600. I failed, however, to get a responsible bid under \$5,000, and I could not spare either my teams or men from the building of the tenements, cement and coal houses, and moving the cement and coal into them for winter. This matter well demands attention the coming spring.

ADDITIONAL

At the time that I found the water in the shaft—January, 1867—I presented the question to the resident engineer, and subsequently to the Hon. James M. Shute, of an adit or drift between the west shaft, west heading and Farren's work, some 2,100 feet, to drain the water, and save the expense of pumping. We have now 1,199 feet to go. The time required to accomplish it was variously estimated at from eight months to a year. The suggestion met with a hearty endorsement from the Commission, but, as it might interfere somewhat with the contract of Mr. Farren, it was not then pressed.

It was also very desirable to have the opinion of the consulting engineer upon it, who had given much attention to a shield in connection with the Farren work.

This adit was subsequently brought to the attention of Mr. Latrobe, and met his sanction and approval, and a contract for 500 feet was taken by Mr. Farren in April, 1867. He had already completed 239 feet. This adit is 4 1/2 feet wide at the bottom, and 3 1/2 feet wide at the top, and about six feet high in the clear, above the drain; and, when finished, may take through small stone cars with from a yard to a yard and a half of the excavated rock.

WELL NO. 4

is one of a series of wells or test pits commenced in 1866. I found this one sunk 103 3/10 feet; and I am informed that it was stopped by influx of water. I suggested the sinking of this well to grade, as long ago as June, in order to get two more faces for working the adit, should it be found necessary. It met the approval of the Commissioners, and, I believe, that of the consulting engineer. With the hope at first that we might get along without it, I delayed for the time; but the constant increase of water, both with Farren and at the West shaft, dissipating this hope, it was commenced September 23d, and up to December 1st we had gone 49 feet with 62 feet more to accomplish.

We have, from this well, when down to grade, about 300 feet to go to meet the adit from the west shaft, and when this is accomplished it will make a material saving in lifting the west shaft water, as previously explained.

THE ROUTE FOR THE TWO MILES OF RAILROAD TO NORTH ADAMS

In the autumn of 1866, the consulting engineer suggested an improvement from former engineers' surveys in the two miles of railroad from the west end to the depot of the Troy and Greenfield Railroad at North Adams.

It is understood that Mr. Manning, when at North Adams, surveyed a route in conformity to this suggestion, but believing that a better line could be obtained, I deferred making purchases of land until another survey could be made under my direction, which resulted in the location of a line leaving the Haupt tunnel lower or farther west, with a view to use the stone *débris* from the tunnel for embankment, and left a gravel bank between the line and Manning's, to be taken out as required, *ad libitum*, passing over the Boston and Albany Railroad by a bridge to a tract of meadow land, the refusal of which I have secured until the coming July for two hundred dollars per acre, with a contingent reserve, should the Hoosac River bed be changed, of about one hundred dollars more. The savings of land damages by this line is variously estimated, but will probably be not less than \$75,000; while the other line affords but little room for depot purposes. This line has been ex-

amined by Mr. A. R. Field, chief engineer of the Troy and Greenfield road, and is understood, in its main features, to meet his approval. It may be better to deviate easterly at the Haupt tunnel, but the westerly part of it must, by saving the destruction of property, dwelling-houses and other buildings as well as the great additional railroad facilities it will afford the growing business of North Adams, meet with approval.

PNEUMATIC DRILLS

Great credit is due to the former chairman of this commission for his persistent and unremitting efforts to develop and perfect a drill competent to bore the mountain, which have culminated in producing the best drill yet in use, at once a monument to the genius of Mr. Burleigh, the inventor, and a credit to Massachusetts.

Within a few days we have taken a machine drill from the heading that has been in constant use, without repair, for four weeks, having drilled in that time 2,250 feet. The twelve drills ordered for the west shaft are now finished, and the carriages for the same nearly so.

CEMENT AND COAL

I purchased, under authority of the commission, 3,000 casks of cement in New York, at a cost, per cask, delivered in North Adams, of \$1.75, cash; subsequently, with no time to communicate with the others, I bought 2,000 casks more, at a cost of \$2, on three months' time. I also purchased two thousand tons of best Lehigh coal, delivered in North Adams, at \$7.45 per ton; also five hundred tons Pittston at \$7 per ton. We have a sufficient quantity of this, housed for winter use.

FURTHER PROGRESS OF THE WORK

It is useless to speculate upon this, as the past affords no criterion by which to judge of the future. Our preparations at the east end and the west shaft, including efficient drilling-machines, ample power to work them continuously, and improved apparatus for hoisting and pumping (the latter of double the present needed capacity) are so nearly completed, that it seems safe to promise largely increased progress in the future. At the central shaft, through the unfortunate destruction of the buildings and machinery while in the hands of the contractors, a little delay will still be unavoidable. We shall profit, as far as possible, by the experience we have gained, in the erection of the new works, and in securing the best machinery for pumping and hoisting. It seems to me to be unwise to contract the work till the value of the preparations so long in progress, and so tedious to an impatient public, shall have been developed in the future advancement of the work.

Last spring we were ridiculed for promising one hundred feet per month, but even more has already been accomplished; and, with the convenient appliances we now have about completed, we will as easily accomplish at least one hundred and fifty feet per month. The central shaft, if it is arranged properly with steam drills, should be sunk at least fifty feet per month.

NITROGLYCERINE

The experiments made in the west shaft last year, as given by Mr. Doane, and referred to in the able report of Mr. Wentworth, chairman of the Tunnel Committee of that year, induced early action by the Commission. As long ago as February last, I visited New York, and spent several days in endeavoring to ascertain if the article had been made there, or in the vicinity, but to no purpose. Finding, subsequently, that the railroads refused absolutely to transport it, the matter rested until the first of July, when I addressed George W. Mowbray, Esq., of Titusville, operative chemist, and with the permission of the Commission he was called to North Adams, and a contract concluded with him highly advantageous to the Commonwealth.

The price for which Professor Mowbray was to furnish a pure article was eighty cents per pound. As the Commission did not see fit to ratify the agreement, I turned over the same in August to Messrs. Dull, Gowan & White. After waiting until November, and finding that the contractors had done nothing, I again arranged with Professor Mowbray, as will appear in the Appendix, from which the public will be gratified to learn that we are on the eve of giving it a fair trial.

FINANCIAL ORGANIZATION AND ACCOUNTS

have been under the especial charge of the late chairman, Hon. James M. Shute, at Boston.

Mr. Henry C. Cunningham, cashier, and Mr. Austin Pond, material clerk, are the same who held these offices at the close of last year, and they have filled them faithfully and well the present year.

By the system adopted under the old Commission, the payroll and accounts being approved by the engineer or superintendent, the cashier took them to Boston each month, to be certified to by the Commission "that the charges for services rendered, labor performed, and material purchased were just and reasonable," more than one hundred and fifty miles distant. The cashier's expenses while away were very considerable, amounting to several hundred dollars annually. It is understood also that, to obviate the inconvenience of his absence, money was formerly placed in the hands of the engineer, to pay small bills.

When I accepted the office of superintendent, as per my communication in June last, it was upon condition that the Boston office should be abolished, and a cashier's bureau established at the place of doing business, where the money would

go direct from the State treasury to the monthly pay-rolls and accounts, and be submitted to the Commission at monthly meetings at North Adams, prior to their approval.

My convictions, after a six months' experience, have not changed as to the importance of this condition, and I most earnestly recommend that in future it be observed.

IMPROVEMENT OF THE COMMON ROAD OVER THE MOUNTAIN

This is only incidentally connected with the work. By such improvement, a great saving would accrue to the Commonwealth in the transportation of material. It is understood that the Troy and Boston road will appropriate something to it, and one spirited individual has offered to give five hundred dollars towards it. Both North Adams and Florida, the Vermont and Massachusetts and the Fitchburg roads have a deep interest in this question. The stages could run from car to car, from Rice's to North Adams, in one and three-quarters hours, and express trains would accomplish the whole distance from Boston to the Hudson River in from eight to ten hours.

MACHINERY AND MATERIAL

have been purchased in Boston, Fall River, Lowell, Fitchburg, Worcester, Springfield, Pittsfield, North Adams, etc. Other things being equal, preference has been given to the merchants and mechanics of our own Commonwealth.

Old machinery and sundries which may be sold: 4 portable engines. 2 rotary pumps. 3 derricks. A large amount of paper pipe, and hydraulic press to test it. 3 rain gauges. 1 small air compressor. 1 compressor partly finished. A large quantity of parts of machinery gears, patterns, etc. And almost fifty boxes of gun cotton. New buildings, tenements and additions, with new machinery: One barn at the east end. This barn was built by the contractors and paid for by the Commonwealth. Fourteen tenements at the west shaft. One cement house, 84 x 20 feet 12 feet high, capable of holding 2,000 barrels of cement, at the west end. Addition to machine shop 20 x 20, two stories, with lathe, drill and planer, at west shaft, purchased this year. Glycerine magazine 16 x 16 feet, one story. One coal shed removed two miles to a suitable place, and has now stored in it 600 tons of Lehigh coal.

I regret that I am unable to give in detail the lands owned by the Commonwealth, as I find no description of some of them as yet.

EXPENSES

The following is a statistical account of expenses from the opening of the work under commissioners to January 1st, 1868.

The first column gives the whole expense, the second the expenses for one year, ending November 1st, 1866, and the third for fourteen months to January 1st, 1868:—

	Cost of Hoosac Tunnel to Jan. 1st, 1865	Cost of Hoosac Tunnel from Nov. 1st, 1865, to Nov. 1st, 1866, 12 mos.	Cost of Hoosac Tunnel from Nov. 1st, 1866, to Jan. 1st, 1868, 14 mos.
Engineering Sup't, &c.	\$97,307.47	\$24,840.58	\$12,466.99
Deerfield Dam	127,666.65	2,063.06	—
Excavation and Masonry at East End Dam	12,802.46	266.60	—
Wheelpits and House	73,023.49	24,845.14	2,300.26
Gates and Overflow	9,986.26	566.53	—
Race or Canal	23,743.49	2,064.51	325.95
East End Heading	203,117.86	71,305.57	99,386.41
East End Enlargement	135,872.78	—	55,555.68
East End Heading Enlargement . .	17,710.96	4,956.78	151.50
Central Shaft	210,786.68	58,898.17	66,362.93
West Shaft	298,113.89	103,263.09	119,072.20
West Approach	420,962.36	113,106.13	173,061.61
Building East End	31,453.10	3,837.34	—
“ Central Shaft	13,980.54	2,406.40	1,953.71
“ West End and Shaft	41,038.20	6,933.71	1,028.07
“ General Account	9,686.56	1,842.98	149.19
Machinery Deerfield Dam	10,820.93	523.01	—
“ East End	130,263.60	66,494.59	43,231.22
“ Central Shaft	59,137.89	28,891.08	7,773.88
“ West Shaft	75,021.34	20,723.11	17,909.61
“ “ End	576.84	503.27	36.95
“ General Account	63,971.53	43,673.08	1,370.77
Land and Right of Way	19,595.25	8,899.37	2,082.04
	\$32,086,640.13	\$590,904.10	\$604,218.97
Deerfield Dam Less by amount of Bark sold		\$316.15	—
Building East End Less by Rents credited		235.89	552.04
			\$603,666.93

If the Report I have submitted is not as full and accurate in its details as might be wished, or if errors have unconsciously crept in, it must be borne in mind that

I have acted as superintendent only six months. The late chief engineer acted until January, and Paul Hill, Esq., as superintendent at the east end until June.

I beg, in closing, to express my thanks to Messrs. Brown, Bond, Granger, Ellis and Pratt, for their fidelity to the interests of the Commonwealth, in their various departments; also to the Hon. James M. Shute, late chairman of the Board, and the Hon. Charles Hudson, for the assistance they have rendered me.

ALVAH CROCKER,

Commissioner in charge of the work.

NORTH ADAMS, Jan. 15, 1868.

*SPEECH ON INLAND NAVIGATION

Mr. SPEAKER.

I should do myself gross injustice & my own immediate Constituency did I not say a word upon this Bill—Four States, at least, Florida, Alabama, Georgia & South Carolina though the immediate recipients of benefits are not the only beneficiaries—True; they can move their Cotton, Sugar & Rice to St. Louis the Great Central Entrepot for their products East or West but the great grain growing states of the Mississippi Valley will profit equally by the saving of the transport of their cereals & other products in return—Sir it is literally impossible to scan the immense benefit of this inland navigation. It can no more be mathematically calculated, than the benefits that have accrued to this country from the Erie Canal aye Sir & to the world also—When Sir, I look to a connection of this sort between the Atlantic & the great centre of the Mississippi Valley, When Sir I view its effects consider the commercial blessings which it confers upon a great people, the interchange of commodities binding us together like as one body by ties of commerce, interest & friendships, I can hardly wait for the time consumed in its accomplishment—Sir, with the cheap breadstuffs of the West the production of cotton now nearly half of the products of the country would be doubled as well as Rice & Sugar—There is not Sir a single State in our broad Union that would not feel its quickening impulse Aye Sir clear to the Pacific, Aye Aye Sir to the cold North to Massachusetts Sir, for our cold climate does not affect our hearts, they beat as strongly, are as warm for our Southern brethren as for ourselves—Sir, I do not propose to argue the details of this question they are too self evident. We have done much for opening our great thoroughfares West poured out Aye Sir literally poured out there our money & land.—Now Mr. Speaker let us show the same liberality to the South & when too it will do more for them than ever before—If we are going to make ourselves a united people it must be by such acts as these. In the construction of the Tunnel & Lake Champlain Lines from Boston, I have an autograph letter from Gen'l Winfield Scott saying that could they have been built before the War of 1812 the money saved in the transportation of troops & munitions of War would have built the Lines—Sir the Tunnel Line not even yet finished has increased the

*No record of this speech was found in the Congressional Record. The manuscript was discovered among his papers.

Value of Northern Massachusetts more than 100 Millions of dollars and this too by Railroad transportation how much more this 1500 miles of canal in a country in which it can be used almost the whole year instead of 7/12ths of a year—with only a cost of transportation of 2 or 3 Mills per ton per Mile. Sir Let us foster in every part of our Land our immense resources, Let no rancor malice or jealousy tear us asunder; but united let us stand by each other. Then Sir shall our progress be rapid, Education have all the aid that increasing wealth can give it and that proud flag behind you Sir float in pride & triumph until the Morn of eternity.

DESCRIPTION OF THE PROFILE VIEW OF HOOSAC TUNNEL

Shown on a preceding page

HOOSAC TUNNEL

TOTAL LENGTH 25081 FEET

FROM WEST END TO CENTRAL SHAFT 12244 FEET

FROM CENTRAL SHAFT TO EAST END 12837 FEET

Located in Northwestern Massachusetts on line of Troy and Greenfield R.R. constructed by Commonwealth of Massachusetts. *Manager*, J. PRESCOTT; *Chief Engineer*, W. P. GRANGER; *Treasurer*, AUSTIN BOND; *Secretary*, EWD. HAMILTON.

Grade at portals, 766 Feet above tide water

“ per mile from portals to central shaft 26.40 ft.

Road chartered in 1848

First work of tunneling commenced 1851

Opened by Commonwealth of Massachusetts up to

beginning of Shanly contract Jan. 1869 East End

5283 Feet, West End 4055 Ft. Central Shaft sunk 583 ft.

Total length of tunnel opened by F. Shanly & Co.

Montreal, 15743 feet

Surveys made and present tunnel line estab-

lished by Thos Doane C. E. in 1863

Distance from Boston to tunnel	136 Miles
“ through “	4 $\frac{3}{4}$ “
“ “ tunnel “ Troy	50 “
Total “ Boston “ “	191 “

Engineers employed by Commonwealth of Massachusetts during Shanly contract

Chief Engineer

B. D. FROST

Chief Assistants

F. D. FISHER in charge at West End

A. W. LOCKE “ “ “ East “

C. O. WEDERKINCH “ “ “ Central Shaft

Total Length of brick arching	7573 Feet
Average thickness of arch, 6 rings or	2 "
West summit above tunnel	1718 "
East " " "	1429 "

First train of cars passed through tunnel Feb. 9th 1875

" passenger train " " " from Boston

to Troy, Oct. 13th 1875

First through freight from the West, consisting of 22

carloads of grain, passed through tunnel Apr. 5th 1875 over

Fitchburg R.R. consigned to J. Cushing & Co. Fitchburg, Mass.

Depth of Central Shaft	1028 Feet
" " West "	318 "

West Shaft partly filled

Central Shaft remaining open for purpose of
ventilating tunnel

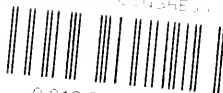
Size of West Shaft 10-14 size of Central Shaft 15-27

Amount of water Running through Drain out West End of Tunnel 600 Gall.
Pr. Min.

Amount of water Running through Drain out East End of Tunnel 100 Gall.
Pr. Min.

The principal explosive employed was tri nitro
glycerine of which 434,755 Lbs. were used during Shanly Contract

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